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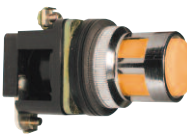
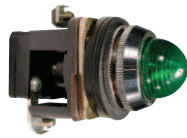


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22 and 30 mm Altech Metal Push Buttons



Part No. PBD

TEKNIC

Quality at a Competitive Price!

Pre-assembled or Ready to Assemble Control Stations



Solutions for your applications

Backed by technical and industrial experience, we offer preassembled ready to install or assembled to order control stations. Altech offers several ranges of control stations. From a cost effective plastic enclosure assembled with 22 mm push buttons to a heavy duty cast aluminum enclosure assembled with 22 or 30mm push buttons, you will find the one that fits your application.



High performance and Extensive range

Our basic plastic or Pressure Die Cast aluminum (PDC) enclosures are available with contact blocks mounted on the bracket behind the 22 mm operator or in the rear (base) of the enclosure (*see page 41*). Altech can assemble the control station to the customer specifications or it can be ordered unassembled. These enclosures are easy to assemble by using any Non-Illuminated operator with a maximum of 2 contacts per operator.

Our plastic enclosures on pages 34-35 can be customized to meet the customer's most demanding applications. These enclosures can be equipped with any 22 mm illuminated or Non-Illuminated operators. Use up to 2 contact blocks with the illuminated operators or up to 4 contact blocks with the Non-illuminated operators.

Our Gravity Die Cast aluminum (GDC) enclosures have an excellent resistance to mechanical shock and vibration. They can be equipped with any illuminated or Non-Illuminated operators. Use up to 2 contact blocks with the illuminated 22mm operators or up to 4 contact blocks with the Non-illuminated 22mm operators. This enclosure can be modified to accept any Non-illuminated 30mm operator or pilot light as well.



Pre-assembled or Ready to Assemble Control Stations



Application specific solutions

These products are suitable for a wide variety of applications. They have an excellent resistance to corrosion and cleaning agents. They are tolerant of high pressure cleaning without leakage. These enclosures combined with our push buttons offer an excellent price/performance ratio.

Our staff has the ability to take your requirements and rapidly turn them into a solution. We use the latest CAD system in our process. Prototypes are available for most application specific requirements.



Safety and reliability

The majority of the enclosures meet all industrial application requirements from the most common to the most extreme.

They have international certifications such as UL, CE, etc. They conform to IEC standards, have a IP65 rating and NEMA Type 4X protection.

Metal legend plates are engraved on both sides, one side in horizontal and the other side in a vertical orientation.

Save Time

Our control stations save you time, simplify and speed up your installation while maintaining the high quality and appearance of your equipment.

Mounting is easy, the only tool you need is a screwdriver.



30mm Metal Push Buttons

The Altech 30mm Push Button line include a complete selection of push buttons, pilot lights and selector switches and accessories. All properly assembled devices are UL and CE Recognized and they certified for NEMA type 4X applications. An internal seal provides watertight integrity and all components are corrosion resistant materials.

Our contact blocks are color coded for an easy assembly and identification (Red=S11, Yellow=S12). Illuminated or Non-Illuminated push buttons in various colors are available for quick delivery.

Selector Switches are available in a 2 or 3 position styles with and option for momentary or maintained function. The pilot lights are full voltage and LED and filament bubs are interchangeable.

Cast aluminum control stations are available to your specifications.

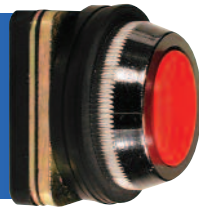
These Ø 30 control devices can be mounted in any position in panels of 1 to 6 mm (.039 - .236 in.) thickness.

30mm Non-Illuminated Metal Operators



Certified for
NEMA Type 4X
12 environment.

Flush Non-Illuminated Momentary



Color	Function	Cat No.
<input type="checkbox"/> White	Momentary	AF1
<input type="checkbox"/> Black	Momentary	AF2
<input type="checkbox"/> Green	Momentary	AF3
<input type="checkbox"/> Red	Momentary	AF4
<input type="checkbox"/> Blue	Momentary	AF6
<input type="checkbox"/> Yellow	Momentary	AF8

Booted Momentary



Color	Function	Cat No.
<input type="checkbox"/> White	Momentary	AB1
<input type="checkbox"/> Black	Momentary	AB2
<input type="checkbox"/> Green	Momentary	AB3
<input type="checkbox"/> Red	Momentary	AB4
<input type="checkbox"/> Blue	Momentary	AB6
<input type="checkbox"/> Yellow	Momentary	AB8

Projecting Momentary



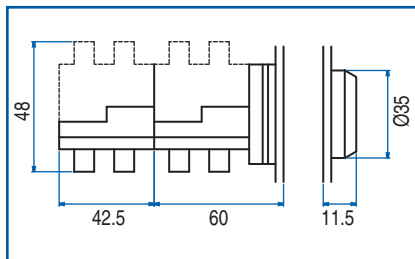
Color	Function	Cat No.
<input type="checkbox"/> White	Momentary	AP1
<input type="checkbox"/> Black	Momentary	AP2
<input type="checkbox"/> Green	Momentary	AP3
<input type="checkbox"/> Red	Momentary	AP4
<input type="checkbox"/> Blue	Momentary	AP6
<input type="checkbox"/> Yellow	Momentary	AP8

30mm Non-Illuminated Metal Operators

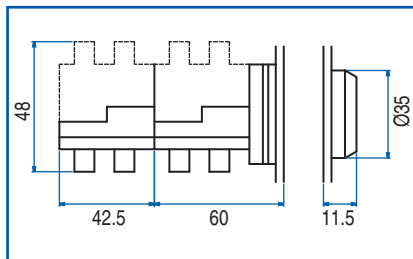
Dimensional Drawings

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

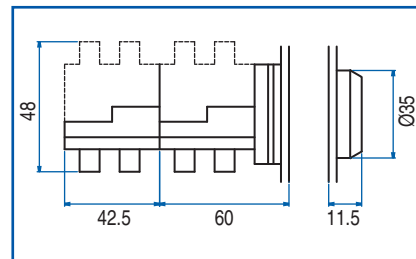
Flush Momentary



Booted Momentary



Projecting Momentary



Contact Elements

Description

1 Normally Open + 1 Normally Closed
Silver Contacts

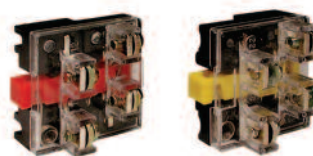
Cat. No.

S11

2 Normally Open + 2 Normally Closed
Silver Contacts

S11 + S12

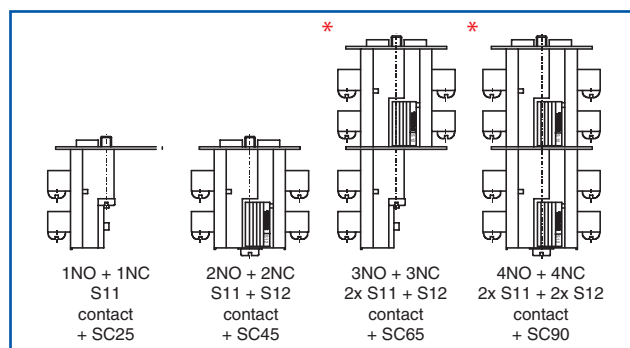
For additional contacts, see diagram at right.



Contact Installation Screws

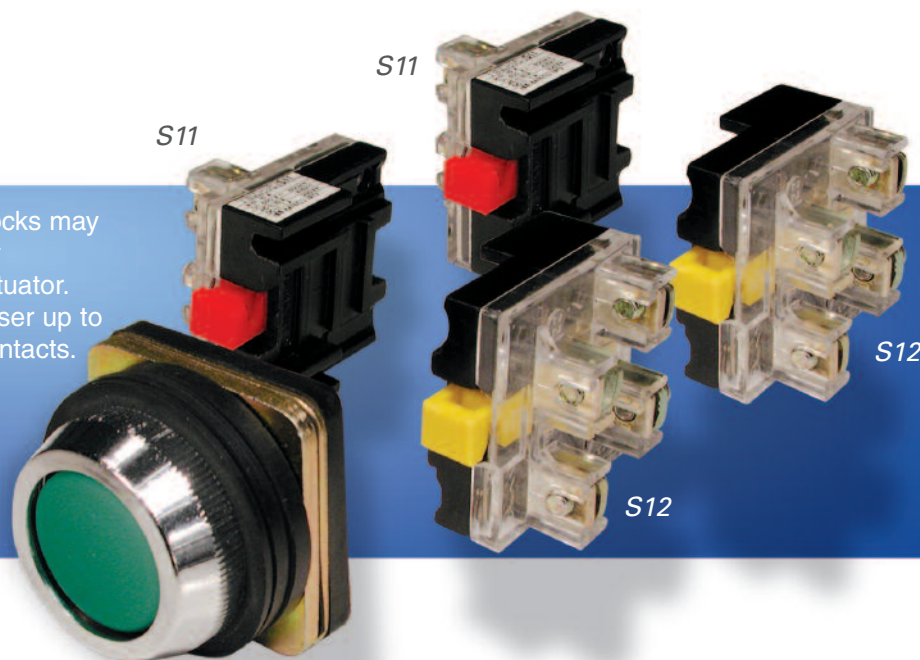
Type	Dimensions	Used with
SC25	M4 x 25 mm	S11
SC45	M4 x 45 mm	S11 + S12
SC65	M4 x 65 mm	2x S11 + S12
SC90	M4 x 90 mm	2x S11 + 2x S12

* When using more than two contact blocks, additional screws must be purchased separately (SC65 and SC90).



Exploded Assembly View

Up to 4 contact blocks may be installed on any non-illuminated actuator. This will give the user up to 4 NO and 4 NC contacts.

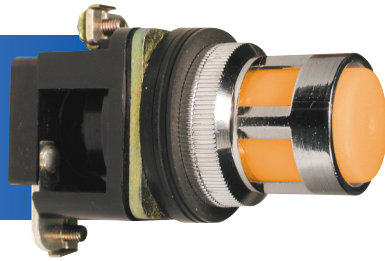


30mm Illuminated Metal Operators



Certified for
NEMA Type 4X
12 environment.

Flush Illuminated Momentary



Note:
All LED illuminated actuators and pilot lights at a specified voltage will operate on AC and DC.
Except for 110V and 230V specify AC or DC type.



Replacement bulbs
available.
See page 54.



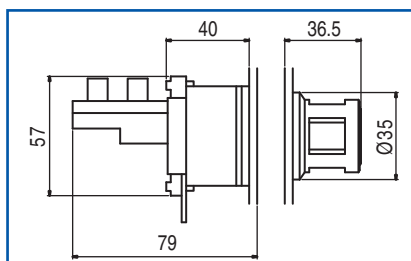
Color	Voltage	Cat No.
24V AC/DC (filament bulb)		
<input type="checkbox"/> White	24V AC/DC	ALF1-024
<input checked="" type="checkbox"/> Green	24V AC/DC	ALF3-024
<input checked="" type="checkbox"/> Red	24V AC/DC	ALF4-024
<input checked="" type="checkbox"/> Amber	24V AC/DC	ALF5-024
<input checked="" type="checkbox"/> Blue	24V AC/DC	ALF6-024
<input type="checkbox"/> Clear	24V AC/DC	ALF7-024
<input checked="" type="checkbox"/> Yellow	24V AC/DC	ALF8-024
48V AC/DC (filament bulb)		
<input type="checkbox"/> White	48V AC/DC	ALF1-048
<input checked="" type="checkbox"/> Green	48V AC/DC	ALF3-048
<input checked="" type="checkbox"/> Red	48V AC/DC	ALF4-048
<input checked="" type="checkbox"/> Amber	48V AC/DC	ALF5-048
<input checked="" type="checkbox"/> Blue	48V AC/DC	ALF6-048
<input type="checkbox"/> Clear	48V AC/DC	ALF7-048
<input checked="" type="checkbox"/> Yellow	48V AC/DC	ALF8-048
110V AC/DC (filament bulb)		
<input type="checkbox"/> White	110V AC/DC	ALF1-110
<input checked="" type="checkbox"/> Green	110V AC/DC	ALF3-110
<input checked="" type="checkbox"/> Red	110V AC/DC	ALF4-110
<input checked="" type="checkbox"/> Amber	110V AC/DC	ALF5-110
<input checked="" type="checkbox"/> Blue	110V AC/DC	ALF6-110
<input type="checkbox"/> Clear	110V AC/DC	ALF7-110
<input checked="" type="checkbox"/> Yellow	110V AC/DC	ALF8-110
230V AC (filament bulb)		
<input type="checkbox"/> White	230V AC	ALF1-230
<input checked="" type="checkbox"/> Green	230V AC	ALF3-230
<input checked="" type="checkbox"/> Red	230V AC	ALF4-230
<input checked="" type="checkbox"/> Amber	230V AC	ALF5-230
<input checked="" type="checkbox"/> Blue	230V AC	ALF6-230
<input type="checkbox"/> Clear	230V AC	ALF7-230
<input checked="" type="checkbox"/> Yellow	230V AC	ALF8-230
<i>230V DC version is available on request.</i>		
24V AC/DC (LED bulb)		
<input type="checkbox"/> White	24V AC/DC	ALF1LB-024
<input checked="" type="checkbox"/> Green	24V AC/DC	ALF3LB-024
<input checked="" type="checkbox"/> Red	24V AC/DC	ALF4LB-024
<input checked="" type="checkbox"/> Amber	24V AC/DC	ALF5LB-024
<input checked="" type="checkbox"/> Blue	24V AC/DC	ALF6LB-024
<input type="checkbox"/> Clear	24V AC/DC	ALF7LB-024
<input checked="" type="checkbox"/> Yellow	24V AC/DC	ALF8LB-024
48V AC/DC (LED bulb)		
<input type="checkbox"/> White	48V AC/DC	ALF1LB-048
<input checked="" type="checkbox"/> Green	48V AC/DC	ALF3LB-048
<input checked="" type="checkbox"/> Red	48V AC/DC	ALF4LB-048
<input checked="" type="checkbox"/> Amber	48V AC/DC	ALF5LB-048
<input checked="" type="checkbox"/> Blue	48V AC/DC	ALF6LB-048
<input type="checkbox"/> Clear	48V AC/DC	ALF7LB-048
<input checked="" type="checkbox"/> Yellow	48V AC/DC	ALF8LB-048
110V AC/DC (LED bulb)		
<input type="checkbox"/> White	110V AC	ALF1LB-110
<input checked="" type="checkbox"/> Green	110V AC	ALF3LB-110
<input checked="" type="checkbox"/> Red	110V AC	ALF4LB-110
<input checked="" type="checkbox"/> Amber	110V AC	ALF5LB-110
<input checked="" type="checkbox"/> Blue	110V AC	ALF6LB-110
<input type="checkbox"/> Clear	110V AC	ALF7LB-110
<input checked="" type="checkbox"/> Yellow	110V AC	ALF8LB-110
230V AC* (LED bulb)		
<input type="checkbox"/> White	230V AC*	ALF1LB-230
<input checked="" type="checkbox"/> Green	230V AC*	ALF3LB-230
<input checked="" type="checkbox"/> Red	230V AC*	ALF4LB-230
<input checked="" type="checkbox"/> Amber	230V AC*	ALF5LB-230
<input checked="" type="checkbox"/> Blue	230V AC*	ALF6LB-230
<input type="checkbox"/> Clear	230V AC*	ALF7LB-230
<input checked="" type="checkbox"/> Yellow	230V AC*	ALF8LB-230
<i>*230V DC version is available on request.</i>		

30mm Illuminated Metal Operators

Dimensional Drawings

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

Flush Illuminated Momentary



Contact Elements

Description

1 Normally Open + 1 Normally Closed
Silver Contacts

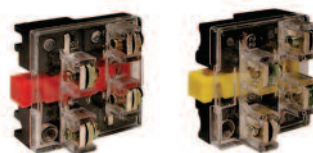
Cat. No.

S11

2 Normally Open + 2 Normally Closed
Silver Contacts

S11 + S12

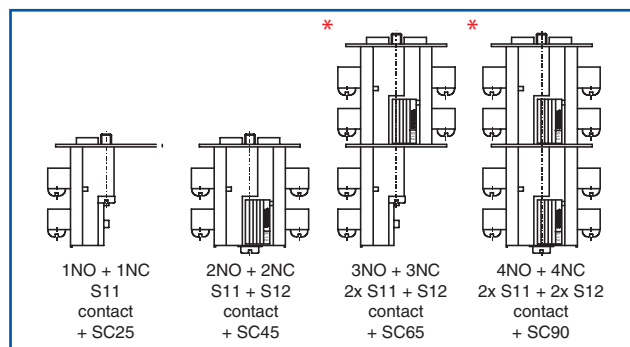
For additional contacts, see diagram at right.



Contact Installation Screws

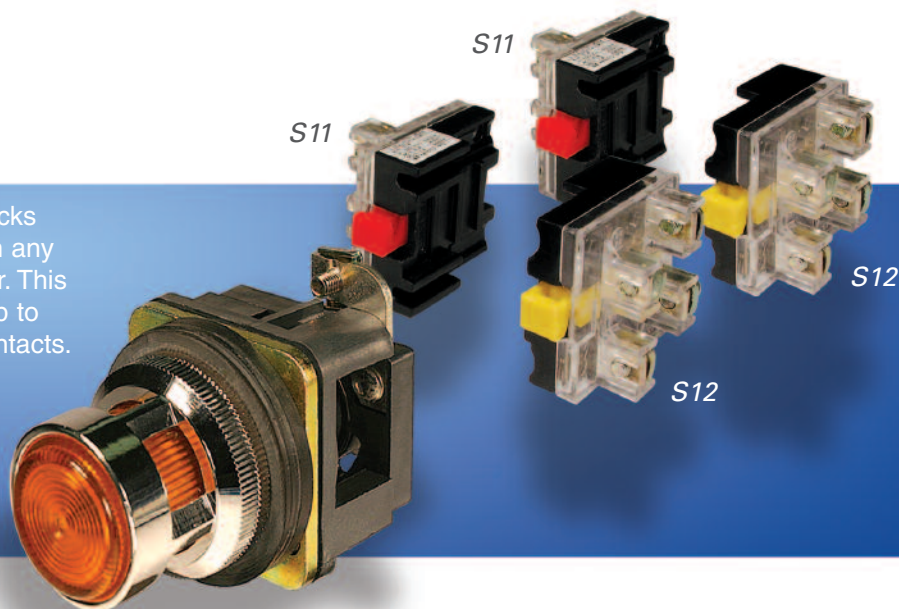
Type	Dimensions	Used with
SC25	M4 x 25 mm	S11
SC45	M4 x 45 mm	S11 + S12
SC65	M4 x 65 mm	2x S11 + S12
SC90	M4 x 90 mm	2x S11 + 2x S12

* When using more than two contact blocks, additional screws must be purchased separately (SC65 and SC90).



Exploded Assembly View

Up to 4 contact blocks may be installed on any Illuminated actuator. This will give the user up to 2 NO and 2 NC contacts.



30mm Selector Switch Metal Operators



Certified for
NEMA Type 4X
12 environment.

Selector Maintained & Momentary



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

Color

Cat No.

2 Position Maintained

■ Black	AS2-2P
---------	--------

3 Position Maintained

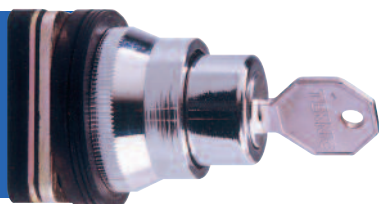
■ Black	AS2-3P
---------	--------

2 Position Momentary

■ Black	AS2-2PSR
---------	----------

Key Selector Switch

Keyed Alike



To be used for applications where single or multiple operators are used, but the same key configurations are required. Standard key selector switches have the same key configuration (Cat. No. KY30).

Function

Key Removal

Cat No.

2 Position

Maintained		Left/Right	AK2-2PB
Momentary		Left	AK2-2POSR
Maintained		Right	AK2-2PI
Maintained		Left	AK2-2PO

3 Position

Maintained		Left/Right	AK2-3PB
Maintained		Center	AK2-3PC



Replacement Key

KY30

Key Selector Switch

Keyed Differently



To be used for applications where multiple operators are used, but different key configurations are required. Each cat. no. have different key configurations.

Function

Key Removal

Cat No.

2 Position

Maintained		Left	AK2-2PO-KD
Momentary		Left	AK2-2PO-KD1
Maintained		Left	AK2-2PO-KD2
Maintained		Left	AK2-2PO-KD4
Maintained		Left	AK2-2PO-KD5

3 Position

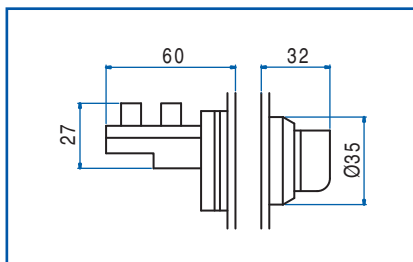
Maintained		Center	AK2-3PC-KD
Maintained		Center	AK2-3PC-KD1
Maintained		Center	AK2-3PC-KD2
Maintained		Center	AK2-3PC-KD3

30mm Selector Switch Metal Operators

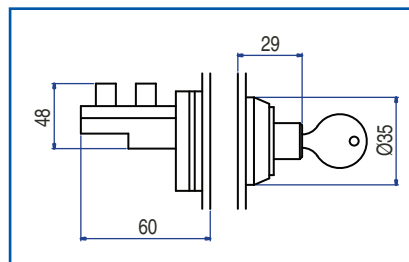
Dimensional Drawings

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

Flush Maintained and Momentary



Key Selector



Contact Elements

Description

1 Normally Open + 1 Normally Closed
Silver Contacts

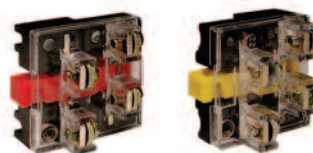
Cat. No.

S11

2 Normally Open + 2 Normally Closed
Silver Contacts

S11 + S12

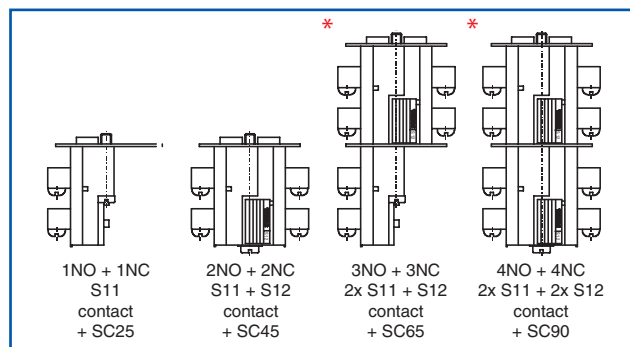
For additional contacts, see diagram at right.



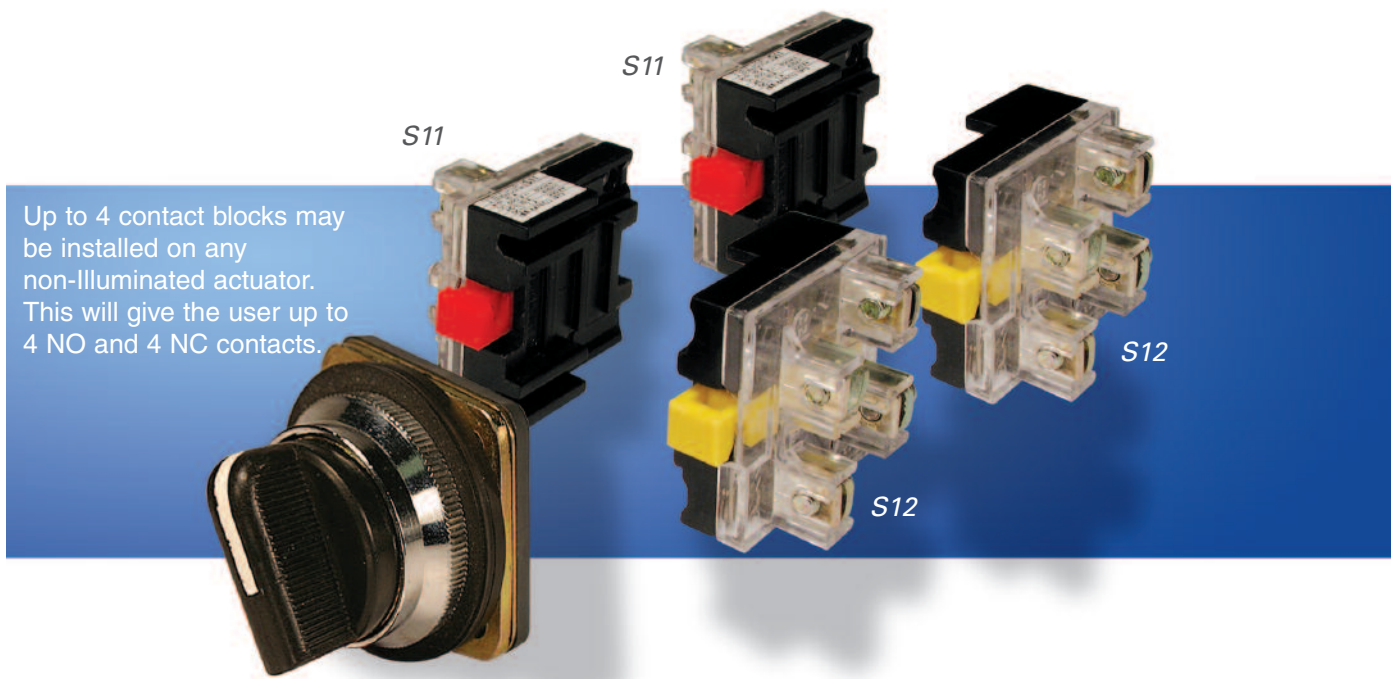
Contact Installation Screws

Type	Dimensions	Used with
SC25	M4 x 25 mm	S11
SC45	M4 x 45 mm	S11 + S12
SC65	M4 x 65 mm	2x S11 + S12
SC90	M4 x 90 mm	2x S11 + 2x S12

* When using more than two contact blocks, additional screws must be purchased separately (SC65 and SC90).



Exploded Assembly View



Up to 4 contact blocks may be installed on any non-illuminated actuator. This will give the user up to 4 NO and 4 NC contacts.

30mm Non-Illuminated Metal Operators



Certified for
NEMA Type 4X
12 environment.

Mushroom with Key



All keys are “keyed alike”. Different keys are available on request.
Other colors are available on request.

Color	Function	Cat No.
-------	----------	---------

Press to Lock, Key to Release

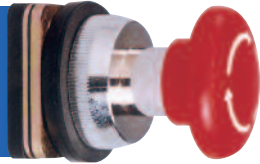
■ Black	Maintained	AMLKB2
■ Red	Maintained	AMLKB4

Key to Lock, Key to Release

■ Black	Maintained	AMKB2
■ Red	Maintained	AMKB4

Mushroom with Indicating Arrows

(Press to lock, turn to release.)



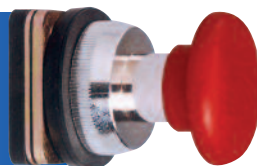
Other colors are available on request.

Color	Function	Cat No.
-------	----------	---------

Press to Lock, Turn to Release

■ Black	Maintained	AML2
■ Red	Maintained	AML4

Mushroom Momentary



Color	Function	Cat No.
-------	----------	---------

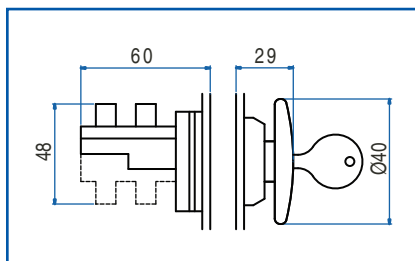
□ White	Momentary	AM1
■ Black	Momentary	AM2
■ Green	Momentary	AM3
■ Red	Momentary	AM4
■ Blue	Momentary	AM6
■ Yellow	Momentary	AM8

30mm Non-Illuminated Metal Operators

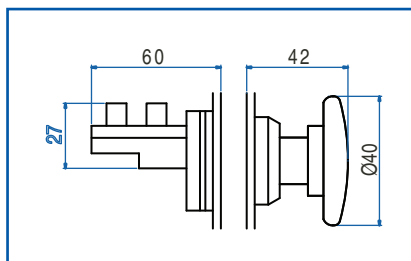
Dimensional Drawings

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

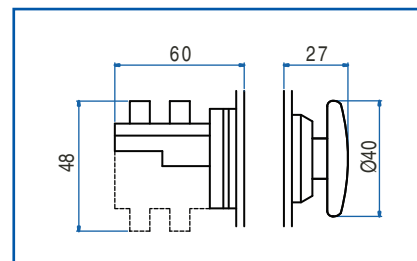
Mushroom with Key



Mushroom with Indicating Arrows



Mushroom Momentary



Contact Elements

Description

1 Normally Open + 1 Normally Closed
Silver Contacts

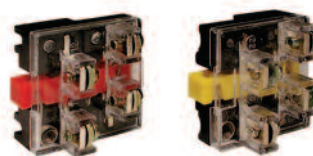
Cat. No.

S11

2 Normally Open + 2 Normally Closed
Silver Contacts

S11 + S12

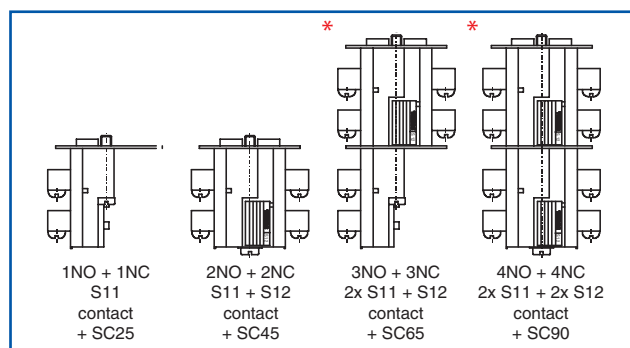
For additional contacts, see diagram at right.



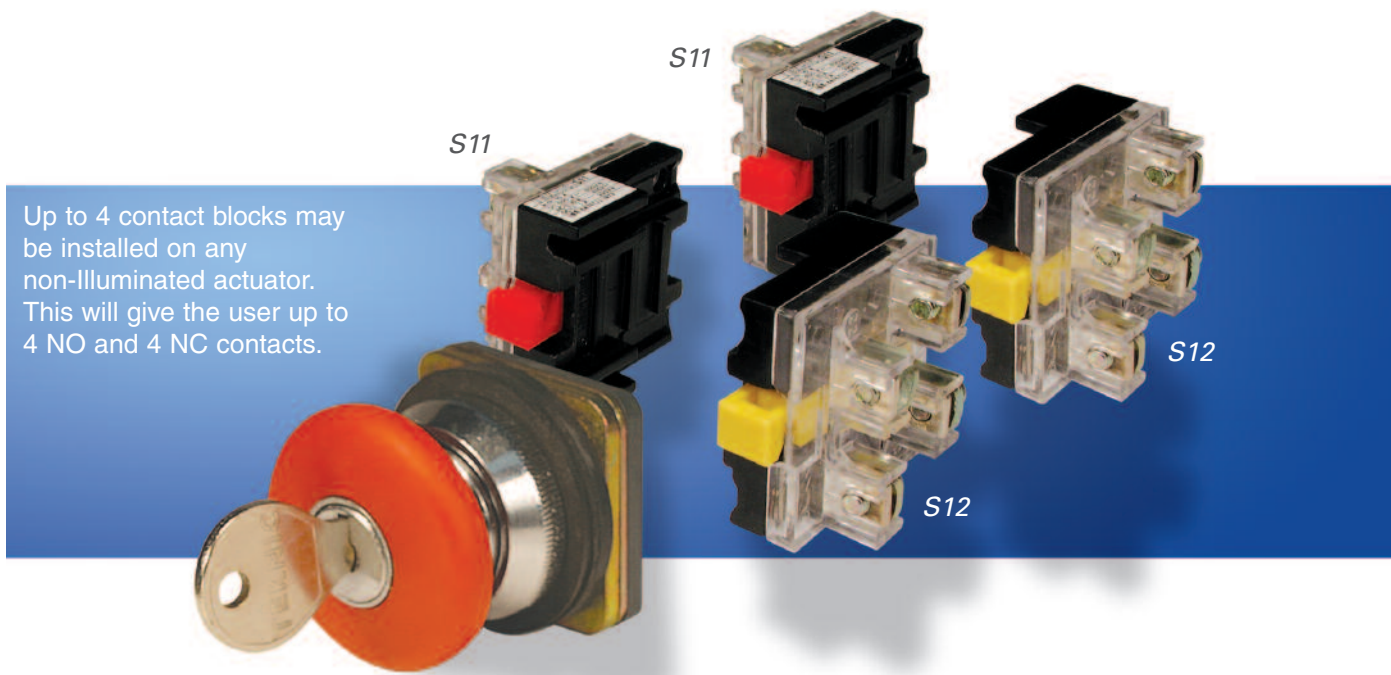
Contact Installation Screws

Type	Dimensions	Used with
SC25	M4 x 25 mm	S11
SC45	M4 x 45 mm	S11 + S12
SC65	M4 x 65 mm	2x S11 + S12
SC90	M4 x 90 mm	2x S11 + 2x S12

* When using more than two contact blocks, additional screws must be purchased separately (SC65 and SC90).



Exploded Assembly View



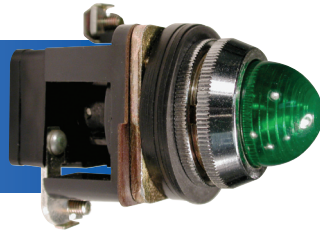
Up to 4 contact blocks may be installed on any non-illuminated actuator. This will give the user up to 4 NO and 4 NC contacts.

30mm Metal Pilot Lights



Certified for
NEMA Type 4X
12 environment.

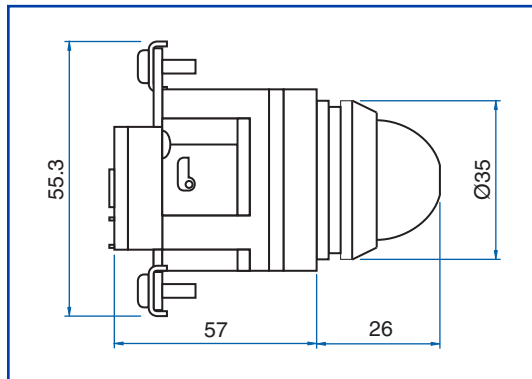
Pilot Light



Note:
All LED pilot lights and illuminated actuators at a specified voltage will operate on AC and DC.
Except for 110 and 230V specify AC or DC type.

Dimensional Drawings

Pilot Light



Replacement bulbs
available.
See page 54.



Filament Bulb

Color	Voltage	Cat No.
24V AC/DC (filament bulb)		
White	24V AC/DC	PLB1-024
Green	24V AC/DC	PLB3-024
Red	24V AC/DC	PLB4-024
Amber	24V AC/DC	PLB5-024
Blue	24V AC/DC	PLB6-024
Clear	24V AC/DC	PLB7-024
Yellow	24V AC/DC	PLB8-024
48V AC/DC (filament bulb)		
White	48V AC/DC	PLB1-048
Green	48V AC/DC	PLB3-048
Red	48V AC/DC	PLB4-048
Amber	48V AC/DC	PLB5-048
Blue	48V AC/DC	PLB6-048
Clear	48V AC/DC	PLB7-048
Yellow	48V AC/DC	PLB8-048
110V AC/DC (filament bulb)		
White	110V AC/DC	PLB1-110
Green	110V AC/DC	PLB3-110
Red	110V AC/DC	PLB4-110
Amber	110V AC/DC	PLB5-110
Blue	110V AC/DC	PLB6-110
Clear	110V AC/DC	PLB7-110
Yellow	110V AC/DC	PLB8-110
230V AC/DC (filament bulb)		
White	230V AC/DC	PLB1-230
Green	230V AC/DC	PLB3-230
Red	230V AC/DC	PLB4-230
Amber	230V AC/DC	PLB5-230
Blue	230V AC/DC	PLB6-230
Clear	230V AC/DC	PLB7-230
Yellow	230V AC/DC	PLB8-230

LED Bulb

Color	Voltage	Cat No.
24V AC/DC (LED bulb)		
White	24V AC/DC	PLB1LB-024
Green	24V AC/DC	PLB3LB-024
Red	24V AC/DC	PLB4LB-024
Amber	24V AC/DC	PLB5LB-024
Blue	24V AC/DC	PLB6LB-024
Clear	24V AC/DC	PLB7LB-024
Yellow	24V AC/DC	PLB8LB-024
48V AC/DC (LED bulb)		
White	48V AC/DC	PLB1LB-048
Green	48V AC/DC	PLB3LB-048
Red	48V AC/DC	PLB4LB-048
Amber	48V AC/DC	PLB5LB-048
Blue	48V AC/DC	PLB6LB-048
Clear	48V AC/DC	PLB7LB-048
Yellow	48V AC/DC	PLB8LB-048
110V AC/DC (LED bulb)		
White	110V AC	PLB1LB-110
Green	110V AC	PLB3LB-110
Red	110V AC	PLB4LB-110
Amber	110V AC	PLB5LB-110
Blue	110V AC	PLB6LB-110
Clear	110V AC	PLB7LB-110
Yellow	110V AC	PLB8LB-110
230V AC* (LED bulb)		
White	230V AC*	PLB1LB-230
Green	230V AC*	PLB3LB-230
Red	230V AC*	PLB4LB-230
Amber	230V AC*	PLB5LB-230
Blue	230V AC*	PLB6LB-230
Clear	230V AC*	PLB7LB-230
Yellow	230V AC*	PLB8LB-230

*230V DC version is available on request.

30mm Aluminum Enclosures

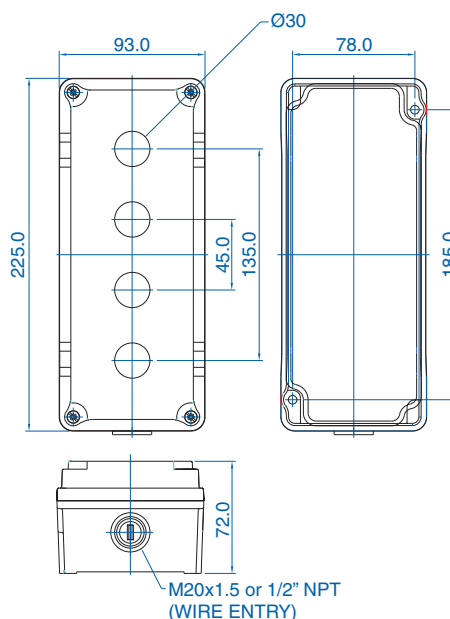
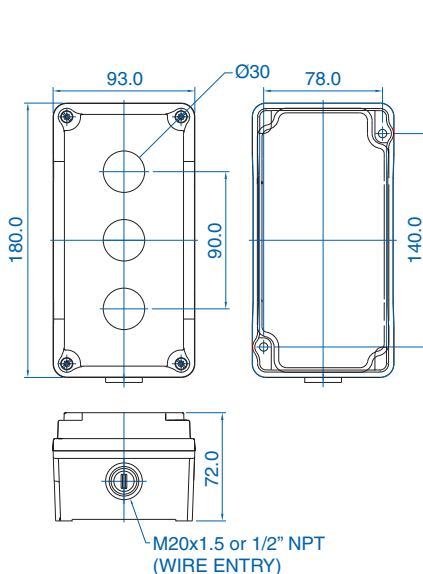
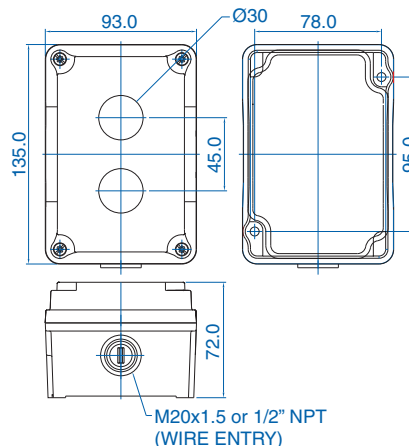
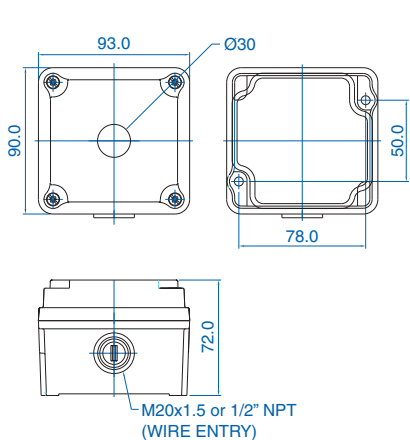


Certified for
NEMA Type 4X
12 environment.

Aluminum Gravity Die Cast



Cat. No.	Operator Capacity	Color Top/ Bottom	Construction	Dimensions (LxWxH) mm (in.)	Cable Entry Size	Mounting Hole Dia.
1003A13	1	Black/Pebble Gray (RAL 7032)	GDC Aluminum	93 x 90x72 (3.66x3.54x2.83)	2xM20	2 X 6mm
1004C13	2	Black/Pebble Gray (RAL 7032)	GDC Aluminum	93x135x72 (3.66x5.32x2.83)	2xM20	2 X 6mm
1005E13	3	Black/Pebble Gray (RAL 7032)	GDC Aluminum	93x180x72 (3.66x7.09x2.83)	2xM20	2 X 6mm
1004G13	4	Black/Pebble Gray (RAL 7032)	GDC Aluminum	93x225x72 (3.66x8.86x2.83)	2xM20	2 X 6mm
1005A13	1	Black/Pebble Gray (RAL 7032)	GDC Aluminum	93 x 90x72 (3.66x3.54x2.83)	2x1/2"-14 NPT	2 X 6mm
1006C13	2	Black/Pebble Gray (RAL 7032)	GDC Aluminum	93x135x72 (3.66x5.32x2.83)	2x1/2"-14 NPT	2 X 6mm
1007E13	3	Black/Pebble Gray (RAL 7032)	GDC Aluminum	93x180x72 (3.66x7.09x2.83)	2x1/2"-14 NPT	2 X 6mm
1006G13	4	Black/Pebble Gray (RAL 7032)	GDC Aluminum	93x225x72 (3.66x8.86x2.83)	2x1/2"-14 NPT	2 X 6mm



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

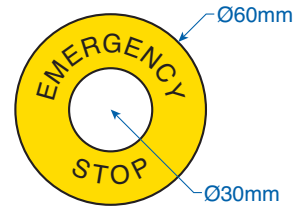
30mm Push Button Accessories



Metal legend plates are engraved in horizontal and vertical orientations, one per side.



EMERGENCY STOP
LP41
Legend plate Ø 60mm
yellow with black text.



Title	Cat No.
AUTO	LP09
CLOSE	LP08
DOWN	LP07
EMERGENCY STOP	LP41
FAST	LP12
HAND	LP10
HAND, O, AUTO	LP36
INCH	LP14
LEFT	LP18
OFF	LP16
ON	LP15
OPEN	LP07

Title	Cat No.
OVER	LP74
POWER ON	LP20
RESET	LP13
REVERSE	LP04
RIGHT	LP17
RUN	LP24
SLOW	LP11
START	LP01
STOP	LP02
TRIP	LP19
UNDER LOAD	LP108

Replacement Bulbs



Filament Bulbs

Color	Voltage	Cat No.
<input type="checkbox"/> Clear	12V AC/DC	BA15D12
<input type="checkbox"/> Clear	24V AC/DC	BA15D24
<input type="checkbox"/> Clear	48V AC/DC	BA15D48
<input type="checkbox"/> Clear	110V AC/DC	BA15D110
<input type="checkbox"/> Clear	230V AC/DC	BA15D220

LED Bulbs

Color	Voltage	Cat No.
<input type="checkbox"/> White	12V AC/DC	MCB15112
<input checked="" type="checkbox"/> Green	12V AC/DC	MCB15312
<input checked="" type="checkbox"/> Red	12V AC/DC	MCB15412
<input checked="" type="checkbox"/> Amber	12V AC/DC	MCB15512
<input checked="" type="checkbox"/> Blue	12V AC/DC	MCB15612
<input checked="" type="checkbox"/> Yellow	12V AC/DC	MCB15812

LED Bulbs

Color	Voltage	Cat No.	Color	Voltage	Cat No.
<input type="checkbox"/> White	110V AC	MCB151110	<input type="checkbox"/> White	230V AC	MCB151230
<input checked="" type="checkbox"/> Green	110V AC	MCB153110	<input checked="" type="checkbox"/> Green	230V AC	MCB153230
<input checked="" type="checkbox"/> Red	110V AC	MCB154110	<input checked="" type="checkbox"/> Red	230V AC	MCB154230
<input checked="" type="checkbox"/> Amber	110V AC	MCB155110	<input checked="" type="checkbox"/> Amber	230V AC	MCB155230
<input checked="" type="checkbox"/> Blue	110V AC	MCB156110	<input checked="" type="checkbox"/> Blue	230V AC	MCB156230
<input checked="" type="checkbox"/> Yellow	110V AC	MCB158110	<input checked="" type="checkbox"/> Yellow	230V AC	MCB158230
<input type="checkbox"/> White	110V DC	MCB151110D	<input type="checkbox"/> White	230V DC	MCB151230D
<input checked="" type="checkbox"/> Green	110V DC	MCB153110D	<input checked="" type="checkbox"/> Green	230V DC	MCB153230D
<input checked="" type="checkbox"/> Red	110V DC	MCB154110D	<input checked="" type="checkbox"/> Red	230V DC	MCB154230D
<input checked="" type="checkbox"/> Amber	110V DC	MCB155110D	<input checked="" type="checkbox"/> Amber	230V DC	MCB155230D
<input checked="" type="checkbox"/> Blue	110V DC	MCB156110D	<input checked="" type="checkbox"/> Blue	230V DC	MCB156230D
<input checked="" type="checkbox"/> Yellow	110V DC	MCB158110D	<input checked="" type="checkbox"/> Yellow	230V DC	MCB158230D
<input type="checkbox"/> White	24V AC/DC	MCB15124	<input type="checkbox"/> White	48V AC/DC	MCB15148
<input checked="" type="checkbox"/> Green	24V AC/DC	MCB15324	<input checked="" type="checkbox"/> Green	48V AC/DC	MCB15348
<input checked="" type="checkbox"/> Red	24V AC/DC	MCB15424	<input checked="" type="checkbox"/> Red	48V AC/DC	MCB15448
<input checked="" type="checkbox"/> Amber	24V AC/DC	MCB15524	<input checked="" type="checkbox"/> Amber	48V AC/DC	MCB15548
<input checked="" type="checkbox"/> Blue	24V AC/DC	MCB15624	<input checked="" type="checkbox"/> Blue	48V AC/DC	MCB15648
<input checked="" type="checkbox"/> Yellow	24V AC/DC	MCB15824	<input checked="" type="checkbox"/> Yellow	48V AC/DC	MCB15848

Maximum Power Consumption:

LED			FILAMENT BULBS	
Supply Voltage	Power (max) in Watts	Current	Power (max) in Watts	Current
12V	0.5W	max 20mA	2W	max 166mA
24V	0.5W	max 20mA	2W	max 85mA
48V	0.5W	max 20mA	5W	max 105mA
110V	0.5W	max 20mA	5W	max 45mA
240V	1W	max 20mA	6W	max 25mA

These bulbs are available in various colors and voltages. LED based bulbs are a direct replacement for filament bulbs and do not require having to change any other components in your existing operator or pilot light.

These bulbs use high brightness LED chips which last for more than 100,000 hours and consume very little power. Heat generated by LED based bulbs is negligible, therefore no damage to the body of the lamp or any operator in case of illuminated push buttons occurs.

These bulbs can be used to replace 12V AC/DC, 24V AC/DC, 48V AC/DC, 110V AC or DC and 240V AC or DC circuits directly. LED color indication is given on the bulb for easy identification.

30mm Push Button Accessories

Lenses and Replacement Boots

Lenses for pilot lights



Color	Cat No.
White	PLL1
Green	PLL3
Red	PLL4
Amber	PLL5
Blue	PLL6
Clear	PLL7
Yellow	PLL8

Lenses for illuminated actuators

Color	Cat No.
White	ALL1
Green	ALL3
Red	ALL4
Amber	ALL5
Blue	ALL6
Clear	ALL7
Yellow	ALL8



Padlock

For mushroom actuator: Cat. No. PAM
For projecting actuator: Cat. No. PAP



Actuator Lock Plate

Cat. No.: ALP101

Rubber Boots for Booted Actuators



Color	Cat No.
White	BT1
Black	BT2
Green	BT3
Red	BT4
Blue	BT6
Yellow	BT8



1.2mm Actuator Rubber Washer

Cat. No.: ARW1.2

3.2mm Actuator Rubber Washer

Cat. No.: ARW3.2



Replacement Key

Cat. No.: KY30



Bulb Extractor

Cat. No.: 2BA15SE

Contact Block Installation Screws



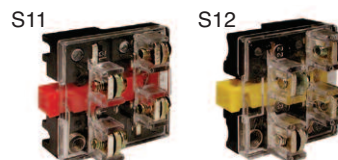
Cat #.	Dimensions	Used With
SC25	M4 x 25 mm	S11 only
SC45	M4 x 45 mm	S11 + S12 (2NO + 2NC)
SC65	M4 x 65 mm	2 x S11 + S12 (3NO + 3NC)
SC90	M4 x 90 mm	2 x S11 + 2 x S12 (4NO+4NC)

Contact Elements

Description

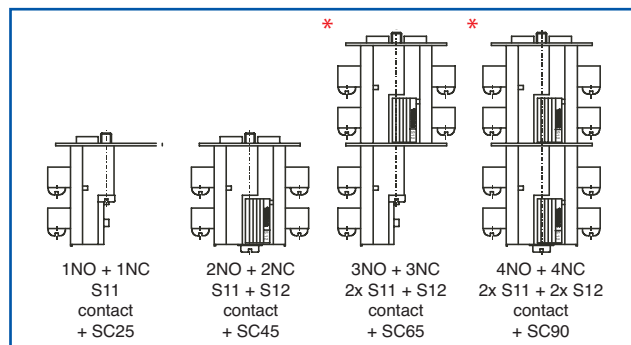
Description	Cat. No.
1 Normally Open + 1 Normally Closed Silver Contacts	S11
2 Normally Open + 2 Normally Closed Silver Contacts	S11 + S12

For additional contacts, see diagram at right.



Contact Installation Screws		
Type	Dimensions	Used with
SC25	M4 x 25 mm	S11
SC45	M4 x 45 mm	S11 + S12
SC65	M4 x 65 mm	2x S11 + S12
SC90	M4 x 90 mm	2x S11 + 2x S12

* When using more than two contact blocks, additional screws must be purchased separately (SC45 and SC90).



30mm Technical Notes

Characteristics

Environment

Temperature Range	-25°C to +70°C (-13°F to +158°F)	
Degree of protection:	IEC 529 UL50	IP65 NEMA Type 4X, 12
Mechanical Life	All push buttons except maintained mushroom maintained mushroom	1 million of cycles 0.3 million of cycles

Mechanical Characteristics of contact elements

Contact Operation	NO+NC	Double break, self-wiping
Rated Insulation Voltage		500 V AC
Operating Travel	Push buttons	Changing NC state 2.4mm Changing NO state 4.3mm Travel 8.7mm
Terminal Capacity	Wiring	2x1.5 sq.mm (2x16 AWG) or 1x2.5 sq.mm (14 AWG)
Contact Material	Bimetal (Cu/Ag)	Standard single element
Short Circuit Protection		10A HRC fuse
Rated Make Break	UL508, AC: A600; 600V, 1.2A DC: Q600; 600V, 0.1A	standard block with screw clamp terminals 415V AC, 4A standard block with screw clamp terminals 220V AC, 0.5A
Dielectric Strength	Push Buttons, Pilot Lights	2500V for 1 minute

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
1.01E+16	53	2ALF3LB-230D	22	2ALMPP4LB-024	13	2AMJ6	8
1.01E+16	53	2ALF4LB-012	22	2ALMPP4LB-048	13	2AMJ8	8
2.01E+16	36	2ALF4LB-024	22	2ALMPP4LB-110	13	2AML1	10
2.01E+16	37	2ALF4LB-048	22	2ALMPP4LB-230	13	2AML2	10
2.01E+16	36	2ALF4LB-110	22	2ALMPP5LB-012	13	2AML3	10
2.01E+16	37	2ALF4LB-110D	22	2ALMPP5LB-024	13	2AML4	10
1003A13	53	2ALF4LB-230	22	2ALMPP5LB-048	13	2AML4	31
1004C13	53	2ALF4LB-230D	22	2ALMPP5LB-110	13	2AML6	10
1004G13	53	2ALF5LB-012	22	2ALMPP5LB-230	13	2AML8	10
1005A13	53	2ALF5LB-024	22	2ALMPP6LB-012	13	2AMLJ1	10
1006C13	53	2ALF5LB-048	22	2ALMPP6LB-024	13	2AMLJ2	10
1006G13	53	2ALF5LB-110	22	2ALMPP6LB-048	13	2AMLJ3	10
153-601	34	2ALF5LB-110D	22	2ALMPP6LB-110	13	2AMLJ4	10
153-601/L	34	2ALF5LB-230	22	2ALMPP6LB-230	13	2AMLJ6	10
153-901	34	2ALF5LB-230D	22	2ALMPP7LB-012	13	2AMLJ8	10
153-901/L	34	2ALF6LB-012	22	2ALMPP7LB-024	13	2AMLKB1	10
153-902	34	2ALF6LB-024	22	2ALMPP7LB-048	13	2AMLKB2	10
153-902/1H	34	2ALF6LB-048	22	2ALMPP7LB-110	13	2AMLKB3	10
153-902/L	34	2ALF6LB-110	22	2ALMPP7LB-230	13	2AMLKB4	10
153-903	34	2ALF6LB-110D	22	2ALMPP8LB-012	13	2AMLKB6	10
153-903/L	34	2ALF6LB-230	22	2ALMPP8LB-024	13	2AMLKB8	10
153-904	34	2ALF6LB-230D	22	2ALMPP8LB-048	13	2AMLS1	10
153-904/L	34	2ALF7LB-012	22	2ALMPP8LB-110	13	2AMLS2	10
153-905	34	2ALF7LB-024	22	2ALMPP8LB-230	13	2AMLS3	10
153-905/L	34	2ALF7LB-048	22	2ALP1LB-012	20	2AMLS4	10
2005A13	36	2ALF7LB-110	22	2ALP1LB-024	20	2AMLS4	31
2005G13	37	2ALF7LB-110D	22	2ALP1LB-048	20	2AMLS6	10
2006C13	36	2ALF7LB-230	22	2ALP1LB-110D	20	2AMLS8	10
2008G13	36	2ALF7LB-230D	22	2ALP1LB-230	20	2AMPP1	8
2009A13	37	2ALF8LB-012	22	2ALP1LB-230D	20	2AMPP2	8
2009G13	37	2ALF8LB-024	22	2ALP3LB-012	20	2AMPP3	8
2010G13	36	2ALF8LB-048	22	2ALP3LB-024	20	2AMPP4	8
2011C13	37	2ALF8LB-110	22	2ALP3LB-048	20	2AMPP4	31
2014C13	36	2ALF8LB-110D	22	2ALP3LB-110	20	2AMPP6	8
2015A13	36	2ALF8LB-230	22	2ALP3LB-110D	20	2AMPP8	8
2015C13	37	2ALF8LB-230D	22	2ALP3LB-230	20	2AMPPJ1	8
2016A13	37	2ALM1LB-012	12	2ALP3LB-230D	20	2AMPPJ2	8
2AB1	6	2ALM1LB-024	12	2ALP4LB-012	20	2AMPPJ3	8
2AB2	6	2ALM1LB-048	12	2ALP4LB-024	20	2AMPPJ4	8
2AB3	6	2ALM1LB-110	12	2ALP4LB-048	20	2AMPPJ6	8
2AB4	6	2ALM1LB-230	12	2ALP4LB-110	20	2AMPPJ8	8
2AB6	6	2ALM3LB-012	12	2ALP4LB-110D	20	2AP1	6
2AB8	6	2ALM3LB-024	12	2ALP4LB-230	20	2AP2	6
2ADP	40	2ALM3LB-048	12	2ALP4LB-230D	20	2AP3	6
2AF1	6	2ALM3LB-110	12	2ALP5LB-012	20	2AP4	6
2AF1RH	6	2ALM3LB-230	12	2ALP5LB-024	20	2AP6	6
2AF2	6	2ALM4LB-012	12	2ALP5LB-048	20	2AP8	6
2AF2RH	6	2ALM4LB-024	12	2ALP5LB-110	20	2AS2-1	16
2AF3	6	2ALM4LB-048	12	2ALP5LB-110D	20	2AS2-2	16
2AF3RH	6	2ALM4LB-110	12	2ALP5LB-230	20	2AS2-3	16
2AF4	6	2ALM4LB-230	12	2ALP5LB-230D	20	2AS2-4	16
2AF4RH	6	2ALM5LB-012	12	2ALP6LB-012	20	2AS2-5	16
2AF6	6	2ALM5LB-024	12	2ALP6LB-024	20	2AS2-6	16
2AF6RH	6	2ALM5LB-048	12	2ALP6LB-048	20	2AS2E-1	16
2AF8	6	2ALM5LB-110	12	2ALP6LB-110	20	2AS2E-2	16
2AF8RH	6	2ALM5LB-230	12	2ALP6LB-110D	20	2AS2E-3	16
2AK2-01	16	2ALM6LB-012	12	2ALP6LB-230	20	2AS2E-4	16
2AK2-02	16	2ALM6LB-024	12	2ALP6LB-230D	20	2AS2E-5	16
2AK2-03	16	2ALM6LB-048	12	2ALP7LB-012	20	2AS2E-6	16
2AK2-04	16	2ALM6LB-110	12	2ALP7LB-024	20	2ASL1LB-1-012	18
2AK2-05	16	2ALM6LB-230	12	2ALP7LB-048	20	2ASL1LB-1-024	18
2AK2-06	16	2ALM7LB-012	12	2ALP7LB-110	20	2ASL1LB-1-048	18
2AK2-07	16	2ALM7LB-024	12	2ALP7LB-110D	20	2ASL1LB-1-110	18
2AK2-08	16	2ALM7LB-048	12	2ALP7LB-230	20	2ASL1LB-1-110D	18
2AK2-09	16	2ALM7LB-110	12	2ALP7LB-230D	20	2ASL1LB-1-230	18
2AK2-10	16	2ALM7LB-230	12	2ALP8LB-012	20	2ASL1LB-1-230D	18
2AK2-11	16	2ALM8LB-012	12	2ALP8LB-024	20	2ASL1LB-2-012	18
2ALBT7	31	2ALM8LB-024	12	2ALP8LB-048	20	2ASL1LB-2-024	18
2ALBT7	40	2ALM8LB-048	12	2ALP8LB-110	20	2ASL1LB-2-048	18
2ALF1LB-012	22	2ALM8LB-110	12	2ALP8LB-110D	20	2ASL1LB-2-110	18
2ALF1LB-024	22	2ALM8LB-230	12	2ALP8LB-230	20	2ASL1LB-2-110D	18
2ALF1LB-048	22	2ALMPP1LB-012	13	2ALP8LB-230D	20	2ASL1LB-2-230	18
2ALF1LB-110	22	2ALMPP1LB-024	13	2AM1	8	2ASL1LB-2-230D	18
2ALF1LB-110D	22	2ALMPP1LB-048	13	2AM2	8	2ASL1LB-3-012	18
2ALF1LB-230	22	2ALMPP1LB-110	13	2AM3	8	2ASL1LB-3-024	18
2ALF1LB-230D	22	2ALMPP1LB-230	13	2AM4	8	2ASL1LB-3-048	18
2ALF3LB-012	22	2ALMPP3LB-012	13	2AM6	8	2ASL1LB-3-110	18
2ALF3LB-024	22	2ALMPP3LB-024	13	2AM8	8	2ASL1LB-3-110D	18
2ALF3LB-048	22	2ALMPP3LB-048	13	2AMJ1	8	2ASL1LB-3-230	18
2ALF3LB-110	22	2ALMPP3LB-110	13	2AMJ2	8	2ASL1LB-3-230D	18
2ALF3LB-110D	22	2ALMPP3LB-230	13	2AMJ3	8	2ASL1LB-4-012	18
2ALF3LB-230	22	2ALMPP4LB-012	13	2AMJ4	8	2ASL1LB-4-024	18

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2ASL1LB-4-048	18	2ASL4LB-4-012	18	2ASL6LB-3-230	18	2ASL8LB-3-110	18
2ASL1LB-4-110	18	2ASL4LB-4-024	18	2ASL6LB-3-230D	18	2ASL8LB-3-110D	18
2ASL1LB-4-110D	18	2ASL4LB-4-048	18	2ASL6LB-4-012	18	2ASL8LB-3-230	18
2ASL1LB-4-230	18	2ASL4LB-4-110	18	2ASL6LB-4-024	18	2ASL8LB-3-230D	18
2ASL1LB-4-230D	18	2ASL4LB-4-110D	18	2ASL6LB-4-048	18	2ASL8LB-4-012	18
2ASL1LB-5-012	18	2ASL4LB-4-230	18	2ASL6LB-4-110	18	2ASL8LB-4-024	18
2ASL1LB-5-024	18	2ASL4LB-4-230D	18	2ASL6LB-4-110D	18	2ASL8LB-4-048	18
2ASL1LB-5-048	18	2ASL4LB-5-012	18	2ASL6LB-4-230	18	2ASL8LB-4-110	18
2ASL1LB-5-110	18	2ASL4LB-5-024	18	2ASL6LB-4-230D	18	2ASL8LB-4-110D	18
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2ASL1LB-5-230	18	2ASL4LB-5-110	18	2ASL6LB-5-024	18	2ASL8LB-4-230D	18
2ASL1LB-5-230D	18	2ASL4LB-5-110D	18	2ASL6LB-5-048	18	2ASL8LB-5-012	18
2ASL1LB-6-012	18	2ASL4LB-5-230	18	2ASL6LB-5-110	18	2ASL8LB-5-024	18
2ASL1LB-6-024	18	2ASL4LB-5-230D	18	2ASL6LB-5-110D	18	2ASL8LB-5-048	18
2ASL1LB-6-048	18	2ASL4LB-6-012	18	2ASL6LB-5-230	18	2ASL8LB-5-110	18
2ASL1LB-6-110	18	2ASL4LB-6-024	18	2ASL6LB-5-230D	18	2ASL8LB-5-110D	18
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ALF8LB-230	46	MCB154230	54	P2BRK	31	SC25	55
ALP101	55	MCB154230D	54	P2MN	31	SC25	55
AM1	50	MCB15424	54	PAM	55	SC45	55
AM2	50	MCB15448	54	PAP	55	SC45	55
AM3	50	MCB155110	54	PLB1-024	52	SC65	55
AM4	50	MCB155110D	54	PLB1-048	52	SC65	55
AM6	50	MCB15512	54	PLB1-110	52	SC90	55
AM8	50	MCB155230	54	PLB1-230	52	SC90	55
AMKB2	50	MCB155230D	54	PLB1LB-024	52		
AMKB4	50	MCB15524	54	PLB1LB-048	52		
AML2	50	MCB15548	54	PLB1LB-110	52		
AML4	50	MCB156110	54	PLB1LB-230	52		
AMLKB2	50	MCB156110D	54	PLB3-024	52		
AMLKB4	50	MCB15612	54	PLB3-048	52		
AP1	44	MCB156230	54	PLB3-110	52		
AP2	44	MCB156230D	54	PLB3-230	52		
AP3	44	MCB15624	54	PLB3LB-024	52		
AP4	44	MCB15648	54	PLB3LB-048	52		
AP6	44	MCB158110	54	PLB3LB-110	52		
AP8	44	MCB158110D	54	PLB3LB-230	52		

Commonly used metric and other useful conversions

Length		
inch [in.]	x25.4	=millimeters
millimeters [mm]	x0.03937	=inches
meters [m]	x3.281	=feet
miles [mi]	x1.609	=kilometers
kilometers [km]	x0.6214	=miles
Torque		
Newtonmeter [Nm]	x0.738	=lb-ft
lb-ft	x1.356	=Nm
lb-in	x0.113	=Nm
oz-in	x0.0071	=Nm
Power		
kilowatt [kW]	x1.341	=hp
hp	x0.7457	=kW
Moment of Inertia (WR²)		
lb-ft ²	x0.042	=kgm ²
kilogrammeter ² [kgm ²]	23.720	=lb-ft ²
Weight Mass and Force		
Newton [N]	x0.02248	=pounds
kilogram [kg]	x2.205	=pounds
pound [lb]	x4.448	=N
pound [lb]	x0.4536	=kg

Metric Cross-Sectional Areas ¹		American Wire Gauge		Metric Cross-Sections Areas ^a		American Wire Gauge	
Cross-Sectional Area	Equivalent Metric Area	AWG or MCM	Cross-Sectional Area	Equivalent Metric Area	AWG or MCM	Cross-Sectional Area	Equivalent Metric Area
mm ²	mm ²		mm ²	mm ²		mm ²	mm ²
0.50	0.519	20 AWG	25.0	21.15	4 AWG		
0.75	0.653	19	26.7	26.67	3		
	0.823	18	35.0	33.63	2		
				42.41	1		
			50.0	53.48	1/0		
1.5	1.65	15	70.0	67.43	2/0		
	2.08	14	95.0	85.03	3/0		
2.5				107.20	4/0		
	2.62	13		126.64	250 MCM		
	3.31	12	120.0	152.00	300		
4.0	4.17	11	150.0	177.35	350		
	5.26	10	185.0	202.71	400		
6.0				253.35	500		
	6.63	9	240.0				
	8.37	8	300.0				
10.0			400.0	380.00	750		
	10.55	7					
	13.30	6	500.0	506.71	1000		
16.0	16.77	5	625.0				

^aAs per IEC Publ. 228

DEGREES CELCIUS VERSUS DEGREES FAHRENHEIT													
°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
-80	-112.0	-20	-4.0	5	41.0	30	86.0	55	131.0	80	176.0	105	221.0
-70	-94.0	-19	-2.2	6	42.8	31	87.8	56	132.8	81	177.8	106	222.8
-60	-65.0	-18	-0.4	7	44.6	32	89.6	57	134.6	82	179.6	107	224.6
-50	-58	-17	+1.4	8	46.4	33	91.4	58	136.4	83	181.4	108	226.4
-45	-49.1	-16	3.2	9	48.2	34	93.2	59	138.2	84	183.2	109	228.2
-40	-40.0	-15	5.0	10	50.0	35	95.0	60	140.0	85	185.0	110	230.0
-39	-38.2	-14	6.8	11	51.8	36	96.8	61	141.8	86	186.8	111	231.8
-38	-36.4	-13	8.6	12	53.6	37	98.6	62	143.6	87	188.6	112	233.6
-37	-34.6	-12	10.4	13	55.4	38	100.4	63	145.4	88	189.4	113	235.4
-36	32.8	-11	12.2	14	57.2	39	102.2	64	147.2	89	192.2	114	237.2
-35	-31.0	-10	14.0	15	59.0	40	104.0	65	149.0	90	194.0	115	239.0
-34	29.2	-9	15.8	16	60.8	41	105.8	66	150.8	91	195.8	116	240.8
-33	-27.4	-8	17.6	17	62.6	42	107.6	67	152.6	92	197.6	117	242.6
-32	-25.6	-7	19.4	18	64.4	43	109.4	68	154.4	93	199.4	118	244.4
-31	-23.8	-6	21.2	19	66.2	44	111.2	69	156.2	94	201.2	119	246.2
-30	-22.0	-5	23.0	20	68.0	45	113.0	70	158.0	95	203.0	120	248.0
-29	-22.0	-4	24.8	21	69.8	46	114.8	71	159.8	96	204.8	121	249.8
-28	-18.4	-3	26.6	22	71.6	47	116.8	72	161.6	97	206.6	122	251.6
-27	-16.6	-2	28.4	23	73.4	48	118.4	73	163.4	98	208.4	123	253.4
-26	-14.8	-1	30.2	24	75.2	49	120.2	74	165.2	99	210.2	124	255.2
-25	-13.0	0	32.0	25	77.0	50	122.0	75	167.0	100	212.0	125	257.0
-24	-11.2	1	33.8	26	78.8	51	123.8	76	168.8	101	213.8	126	258.8
-23	-9.4	2	35.6	27	80.6	52	125.6	77	170.6	102	215.6	127	260.6
-22	-7.6	3	37.4	28	82.4	53	127.4	78	172.4	103	217.4	128	262.4
-21	-5.8	4	39.2	29	84.2	54	129.2	79	174.2	104	219.2	129	264.2

Conversion Formula °F = 9/5°C + 32° °C = 5/9(°F-32°)

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