



**IP69K\***

(Protection against  
high pressure,  
high temperature  
water jets)

## ▶ IP69K Pilot Devices

Maximum Protection for severe environments

OUR COMMITMENT MAKES THE DIFFERENCE ▶

**BACO**<sup>®</sup>  
**CONTROLS**

North American Edition

# ► Products for severe environments

## ► BACO provides solutions for harsh industrial environments.

BACO's 22mm control and signalling devices are available in plastic bodies and can be fitted with an external shroud to protect against liquid and dust ingress into the head itself. All 22mm devices are rated to a minimum IP66 and Type 4X environmental ratings. Many standard operators have more stringent IP67 and IP69K ratings.



## ► BACO provides solutions for harsh industrial environments.

BACO operators meet the needs of such industries as:

- Food Processing
- Pharmaceutical
- Brewing
- Outdoor Machinery
- Waste Treatment
- Bottling
- Car Wash

- Trucking/Transportation
- Mobile Machines
- Material Handling
- Marine
- Metal Forming
- Mining
- Oil & Gas

BACO's 22mm illuminated and non-illuminated, momentary and maintained pushbuttons, selector switches, emergency stop buttons and pilot lights have been enhanced to provide IP69K protection standard (manufactured after week 36 2015).

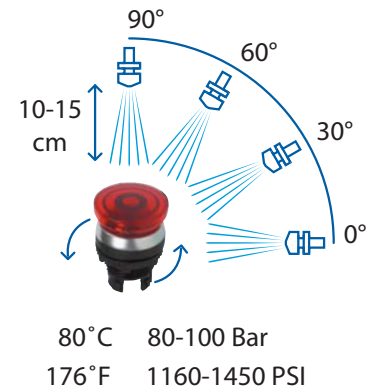
## ► What is IP69K?

- IP69K is an IEC protection degree rating
- A device having the IP69K rating is **protected against close-range high pressure, high temperature spray downs**

## ► Do I need IP69K protection?

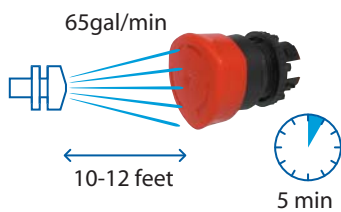
- If your application is in the food, beverage or pharmaceutical industry chances are you already require IP69K ratings.
- Any high-pressure, high temperature wash down applications would benefit from IP69K protection.

► Tough and robust according to IP69K

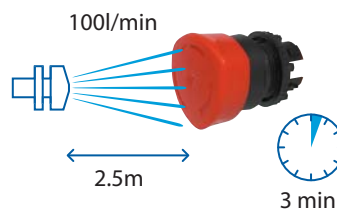


## ► Additional ratings for harsh environments

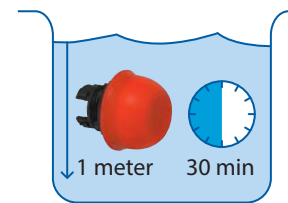
► Watertight according to NEMA 4x



► Waterproof according to IP66



► Waterproof according to IP67



Industrial vehicles



Outdoor Machinery



Mining



Marine

IP69K

IP66

Type 4X

## ▶ 22mm Push Buttons

### Non-Illuminated, Momentary, Flush



Chrome Bezel	Black Bezel
● L21AA01	L22AA01
● L21AA02	L22AA02
● L21AA03	L22AA03
● L21AA04	L22AA04
○ L21AA05	L22AA05
● L21AA06	L22AA06

### Illuminated, Momentary, Flush



Chrome Bezel	Black Bezel
● L21AH10	L22AH10
● L21AH20	L22AH20
● L21AH40	L22AH40
○ L21AH50	L22AH50
● L21AH60	L22AH60

### Non-Illuminated, Momentary, Projecting



Chrome Bezel	Black Bezel
● L21AB01	L22AB01
● L21AB02	L22AB02
● L21AB03	L22AB03
● L21AB04	L22AB04
○ L21AB05	L22AB05
● L21AB06	L22AB06

### Illuminated, Momentary, Projecting



Chrome Bezel	Black Bezel
● L21AK10	L22AK10
● L21AK20	L22AK20
● L21AK40	L22AK40
○ L21AK50	L22AK50
● L21AK60	L22AK60

### Non-Illuminated, Maintained, Flush



Chrome Bezel	Black Bezel
● L21CA01	L22CA01
● L21CA02	L22CA02
● L21CA03	L22CA03
● L21CA04	L22CA04
○ L21CA05	L22CA05
● L21CA06	L22CA06

### Illuminated, Maintained, Flush



Chrome Bezel	Black Bezel
● L21CH10	L22CH10
● L21CH20	L22CH20
● L21CH40	L22CH40
○ L21CH50	L22CH50
● L21CH60	L22CH60

### Non-Illuminated, Maintained, Projecting



Chrome Bezel	Black Bezel
● L21CB01	L22CB01
● L21CB02	L22CB02
● L21CB03	L22CB03
● L21CB04	L22CB04
○ L21CB05	L22CB05
● L21CB06	L22CB06

### Illuminated, Maintained, Projecting



Chrome Bezel	Black Bezel
● L21CK10	L22CK10
● L21CK20	L22CK20
● L21CK40	L22CK40
○ L21CK50	L22CK50
● L21CK60	L22CK60

IP69K

IP66

Type 4X

## ▶ 22mm Mushroom Buttons

### Non-Illuminated, Momentary, 32mm



Chrome Bezel	Black Bezel
● L21AC01	L22AC01
● L21AC02	L22AC02
● L21AC03	L22AC03
● L21AC04	L22AC04

### Illuminated, Momentary, 32mm



Chrome Bezel	Black Bezel
● L21AL10	L22AL10
● L21AL20	L22AL20
● L21AL40	L22AL40
○ L21AL50	L22AL50

### Non-Illuminated, Momentary, 40mm



Chrome Bezel	Black Bezel
● L21AD01	L22AD01
● L21AD02	L22AD02
● L21AD03	L22AD03
● L21AD04	L22AD04
● L21AD06	L22AD06

### Non-Illuminated, Momentary, 70mm



Chrome Bezel	Black Bezel
● L21AE01	L22AE01
● L21AE03	L22AE03

### Non-Illuminated, Maintained, 32mm, Push-Turn to reset



Black Bezel
● L22EC01
● L22EC02
● L22EC03
● L22EC04

### Illuminated, Maintained, 32mm, Push-Turn to reset



Black Bezel
● L22EL10
● L22EL20
● L22EL40

### Non-Illuminated, Maintained, 32mm, Push-Pull to reset



Black Bezel
● L22DC01

### Illuminated, Maintained, 32mm, Push-Pull to reset



Black Bezel
● L22DL10

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IP66

Type 4X

## ▶ 22mm Mushroom Buttons

Non-Illuminated, Maintained, 40mm, Push-Turn to reset



Black Bezel

- L22ED01
- L22ED02
- L22ED03
- L22ED04

Illuminated, Maintained, 40mm, Push-Turn to reset



Black Bezel

- L22EM10
- L22EM20
- L22EM40

Non-Illuminated, Maintained, 40mm, Push-Pull to reset



Black Bezel

- L22DD01
- L22DD02
- L22DD03
- L22DD04

Illuminated, Maintained, 40mm, Push-Pull to reset



Black Bezel

- L22DM10
- L22DM20
- L22DM40
- L22DM50

Non-Illuminated, Maintained, 40mm, Push-Key to reset



Black Bezel

- L22GM01

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IP66

Type 4X

## ▶ 22mm Emergency Stops - ISO 13850

Non-Illuminated, 32mm, Push-Pull to reset



Black Bezel  
● L22DQ01

Non-Illuminated, 32mm, Push-Key to reset



Black Bezel  
● L22GQ01

Non-Illuminated, 40mm, Push-Pull to reset



Black Bezel  
● L22DR01

Non-Illuminated, 40mm, Push-Key to reset



Black Bezel  
● L22GR01

Non-Illuminated, 40mm, Push-Turn to reset



Black Bezel  
● L22ER01

Non-Illuminated, 54mm, Flag Indicator, Push-Pull to reset



Black Bezel  
(0 - 1) ● L22DU01A  
(STOP - 1) ● L22DU01

Illuminated, 40mm, Push-Pull to reset



Black Bezel  
● L22DN10

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IP66

Type 4X

## ▶ 22mm Selector Switches



**Non-Illuminated,  
2 Position, Handle**



**Illuminated,  
2 Position, Handle**



Chrome Bezel	Black Bezel
● L21KA01	L22KA01
● L21KA02	L22KA02
● L21KA03	L22KA03
● L21KA08	L22KA08



Chrome Bezel	Black Bezel
● L21KG10	L22KG10
● L21KG20	L22KG20
● L21KG30	L22KG30



Chrome Bezel	Black Bezel
● L21KB01	L22KB01
● L21KB02	L22KB02
● L21KB03	L22KB03
● L21KB08	L22KB08



Chrome Bezel	Black Bezel
● L21KH10	L22KH10
● L21KH20	L22KH20
● L21KH30	L22KH30



Chrome Bezel	Black Bezel
● L21KC01	L22KC01
● L21KC02	L22KC02
● L21KC03	L22KC03
● L21KC08	L22KC08



Chrome Bezel	Black Bezel
● L21KJ10	L22KJ10
● L21KJ20	L22KJ20
● L21KJ30	L22KJ30



Chrome Bezel	Black Bezel
● L21KD01	L22KD01
● L21KD02	L22KD02
● L21KD03	L22KD03
● L21KD08	L22KD08



Chrome Bezel	Black Bezel
● L21KK10	L22KK10
● L21KK20	L22KK20
● L21KK30	L22KK30



Chrome Bezel	Black Bezel
● L21KE01	L22KE01
● L21KE02	L22KE02
● L21KE03	L22KE03
● L21KE08	L22KE08



Chrome Bezel	Black Bezel
● L21KL10	L22KL10
● L21KL20	L22KL20
● L21KL30	L22KL30



Chrome Bezel	Black Bezel
● L21KF01	L22KF01
● L21KF02	L22KF02
● L21KF03	L22KF03
● L21KF08	L22KF08



Chrome Bezel	Black Bezel
● L21KM10	L22KM10
● L21KM20	L22KM20
● L21KM30	L22KM30



IP69K

IP66

Type 4X

## ▶ 22mm Selector Switches



**Non-Illuminated,  
2 Position, Lever**



**Illuminated,  
2 Position, Lever**



Chrome Bezel	Black Bezel
● L21KP01	L22KP01
● L21KP02	L22KP02
● L21KP03	L22KP03
● L21KP08	L22KP08



Chrome Bezel	Black Bezel
● L21KV30	L22KV30



Chrome Bezel	Black Bezel
● L21KQ01	L22KQ01
● L21KQ02	L22KQ02
● L21KQ03	L22KQ03



Chrome Bezel	Black Bezel
● L21KX30	L22KX30



Chrome Bezel	Black Bezel
● L21KR01	L22KR01
● L21KR02	L22KR02
● L21KR03	L22KR03



Chrome Bezel	Black Bezel
● L21KY30	L22KY30



Chrome Bezel	Black Bezel
● L21KS01	L22KS01
● L21KS02	L22KS02
● L21KS03	L22KS03



Chrome Bezel	Black Bezel
● L21KT01	L22KT01
● L21KT02	L22KT02
● L21KT03	L22KT03



Chrome Bezel	Black Bezel
● L21KU01	L22KU01
● L21KU02	L22KU02
● L21KU03	L22KU03

IP69K

IP66

Type 4X

## 22mm Selector Switches



Non-Illuminated,  
3 Position, Handle



Illuminated,  
3 Position, Handle



- | Chrome Bezel | Black Bezel |
|--------------|-------------|
| ● L21MA01    | L22MA01     |
| ● L21MA02    | L22MA02     |
| ● L21MA03    | L22MA03     |
| ● L21MA08    | L22MA08     |



- | Chrome Bezel | Black Bezel |
|--------------|-------------|
| ● L21ME10    | L22ME10     |
| ● L21ME20    | L22ME20     |
| ● L21ME30    | L22ME30     |



- | Chrome Bezel | Black Bezel |
|--------------|-------------|
| ● L21MB01    | L22MB01     |
| ● L21MB02    | L22MB02     |
| ● L21MB03    | L22MB03     |
| ● L21MB08    | L22MB08     |



- | Chrome Bezel | Black Bezel |
|--------------|-------------|
| ● L21MF10    | L22MF10     |
| ● L21MF20    | L22MF20     |
| ● L21MF30    | L22MF30     |



- | Chrome Bezel | Black Bezel |
|--------------|-------------|
| ● L21MC01    | L22MC01     |
| ● L21MC02    | L22MC02     |
| ● L21MC03    | L22MC03     |
| ● L21MC08    | L22MC08     |



- | Chrome Bezel | Black Bezel |
|--------------|-------------|
| ● L21MG10    | L22MG10     |
| ● L21MG20    | L22MG20     |
| ● L21MG30    | L22MG30     |



- | Chrome Bezel | Black Bezel |
|--------------|-------------|
| ● L21MD01    | L22MD01     |
| ● L21MD02    | L22MD02     |
| ● L21MD03    | L22MD03     |
| ● L21MD08    | L22MD08     |



- | Chrome Bezel | Black Bezel |
|--------------|-------------|
| ● L21MH10    | L22MH10     |
| ● L21MH20    | L22MH20     |
| ● L21MH30    | L22MH30     |



- | Chrome Bezel | Black Bezel |
|--------------|-------------|
| ● L21MK01    | L22MK01     |
| ● L21MK02    | L22MK02     |
| ● L21MK03    | L22MK03     |
| ● L21MK08    | L22MK08     |



- | Chrome Bezel | Black Bezel |
|--------------|-------------|
| ● L21MJ10    | L22MJ10     |
| ● L21MJ20    | L22MJ20     |
| ● L21MJ30    | L22MJ30     |

## 22mm Selector Switches



**Non-Illuminated,  
3 Position, Lever**



**Illuminated,  
3 Position, Lever**



- | Chrome Bezel | Black Bezel |
|--------------|-------------|
| ● L21MR01    | L22MR01     |
| ● L21MR02    | L22MR02     |
| ● L21MR03    | L22MR03     |
| ● L21MR08    | L22MR08     |



- | Chrome Bezel | Black Bezel |
|--------------|-------------|
| ● L21ML30    | L22ML30     |



- | Chrome Bezel | Black Bezel |
|--------------|-------------|
| ● L21MS01    | L22MS01     |
| ● L21MS02    | L22MS02     |
| ● L21MS03    | L22MS03     |
| ● L21MS08    | L22MS08     |



- | Chrome Bezel | Black Bezel |
|--------------|-------------|
| ● L21MM30    | L22MM30     |



- | Chrome Bezel | Black Bezel |
|--------------|-------------|
| ● L21MT01    | L22MT01     |
| ● L21MT02    | L22MT02     |
| ● L21MT03    | L22MT03     |
| ● L21MT08    | L22MT08     |



- | Chrome Bezel | Black Bezel |
|--------------|-------------|
| ● L21MN30    | L22MN30     |



- | Chrome Bezel | Black Bezel |
|--------------|-------------|
| ● L21MU01    | L22MU01     |
| ● L21MU02    | L22MU02     |
| ● L21MU03    | L22MU03     |
| ● L21MU08    | L22MU08     |



- | Chrome Bezel | Black Bezel |
|--------------|-------------|
| ● L21MP30    | L22MP30     |

IP69K

IP66

Type 4X

## ▶ 22mm Key Switches



Non-Illuminated,  
2 Position

	Chrome Bezel	Black Bezel		Chrome Bezel	Black Bezel
	● L21LA00	L22LA00		● L21LF00	L22LF00
	● L21LB00	L22LB00		● L21LG00	L22LG00
	● L21LC00	L22LC00		● L21LH00	L22LH00
	● L21LD00	L22LD00		● L21LK00	L22LK00

▶ • indicates position(s) key is removeable in.

IP69K

IP66

Type 4X

## ▶ 22mm Key Switches



Non-Illuminated,  
3 Position

	Chrome Bezel	Black Bezel		Chrome Bezel	Black Bezel
	● L21NA00	L22NA00		● L21NE00	L22NE00
	● L21NB00	L22NB00		● L21NJ00	L22NJ00
	● L21NC00	L22NC00		● L21NK00	L22NK00
	● L21ND00	L22ND00		● L21NL00	L22NL00

▶ • indicates position(s) key is removeable in.

IP69K

IP66

Type 4X

## ▶ 22mm Pilot Lights

Pilot light head - for use with modular LED Block



- L20SE10
- L20SE20
- L20SE40
- L20SE50
- L20SE60

One-Piece Pilot Light with 24 V<sub>AC/DC</sub> LED



- L20SA10LA
- L20SA20LA
- L20SA40LA
- L20SA50LA
- L20SA60LA

One-Piece Pilot Light with 120 V<sub>AC</sub> LED



- L20SA10MA
- L20SA20MA
- L20SA40MA
- L20SA50MA
- L20SA60MA

One-Piece Pilot Light with 240 V<sub>AC</sub> LED



- L20SA10HA
- L20SA20HA
- L20SA40HA
- L20SA50HA
- L20SA60HA

## ▶ 22mm Accessories

IP67 - For Flush Pushbuttons



- LWA0251
- LWA0252
- LWA0253
- LWA0255

IP67 - For Projected Pushbuttons



- LWA0203
- LWA0204
- LWA0205
- LWA0228

Legend Plate - 30 x 45 mm



- LWP31
- LWP33
- LWP35
- LWP39

Legend Plate - 40 x 45 mm



- LWG31
- LWG33
- LWG35
- LWG39

▶ Standard and Custom engravings available. Contact us for details.

## ► 22mm Clips, Contact Blocks, LED modules

1 Position Clip



331E

3 Position Clip



333E

5 Position Clip



335E

Screw Terminal Contact Blocks



NO	33E10	
NC	33E01	
NO/NC	33E11	(combination)
NO	33E10Y7	(gold plated)
NC	33E01Y7	(gold plated)

Screw Terminal LED modules



	24 V <sub>AC/DC</sub>	130 V <sub>AC</sub>	230 V <sub>AC</sub>
●	33EARL	33EARM	33EARH
●	33EAGL	33EAGM	33EAGH
●	33EAYL	33EAYM	33EAYH
○	33EAWL	33EAWM	33EAWH
●	33EABL	33EABM	33EABH

Plug-In Terminal Contact Blocks



NO	33R10
NC	33R01

Plug-In Terminal LED modules



	24 V <sub>AC/DC</sub>	130 V <sub>AC</sub>	230 V <sub>AC</sub>
●	33RARL	33RARM	33RARH
●	33RAGL	33RAGM	33RAGH
●	33RAYL	33RAYM	33RAYH
○	33RAWL	33RAWM	33RAWH
●	33RABL	33RABM	33RABH

Faston Terminal Contact Blocks



NO	33D10
NC	33D01

Faston Terminal LED modules



	24 V <sub>AC/DC</sub>	130 V <sub>AC</sub>	230 V <sub>AC</sub>
●	33DARL	33DARM	33DARH
●	33DAGL	33DAGM	33DAGH
●	33DAYL	33DAYM	33DAYH
○	33DAWL	33DAWM	33DAWH
●	33DABL	33DABM	33DABH

## ► Technical Characteristics

### General

► Storage temperature	- 40 °C to + 70 °C	
► Operating temperature	- 25 °C to + 70 °C	
► Climatic resistance	Constant humid heat	IEC 60068-2-3
	Cyclic damp heat	IEC 60068-2-30
	Resistance to sea air	IEC 60068-2-52
► Degree of protection	IP 66 for standard heads	IEC 60529
	IP 67 for shrouded heads	IEC 60529
	IP 66 for equipped control stations	IEC 60529
	IP 69 and IP69K for single pushbuttons	IEC 60529 - ISO 20653
	IP 66 for twin/triple touch pushbuttons	IEC 60529
	IP 69 and IP69K for selector switches	IEC 60529 - ISO 20653
	IP 69 and IP69K for pilot devices	IEC 60529 - ISO 20653
	IP 69 and IP69K for emergency stops	IEC 60529 - ISO 20653
	IP 20 at the rear of the panel for contact blocks and one piece pilot lights	
	Type 1, 2, 3, 3R, 3S, 4, 4X, 12, and 13 for heads and control stations	NEMA standard
► Approvals	UL United states and Canada	UL 508, CSA 22.2
	BV Bureau Véritas	Marine rules
	Certification OC/CB	IEC 60947-5-1
		IEC 60947-5-5
		IEC 60947-5-4

### LED Modules

► Operating voltage	12 to 24 V AC/DC	
	48 V AC/DC (for LED block)	
	130 V AC	
	230 V AC	
► Frequency	50 or 60 Hz	
► Lifetime at rated supply voltage	Red and yellow: 100 000 hours at 25 °C	
	Other colors: 50 000 hours at 25 °C	
► Consumption of LED blocks	Voltage:	- 24 V: 25 mA ± 20%
		- 48 V: 15 mA ± 5%
		- 130 V: 20 mA ± 10%
		- 230 V: 16 mA ± 30%



## ► Technical Characteristics

### Screw and plug-in connection characteristics

► Rated insulation voltage	690 V AC 600 V AC	IEC/EN 60947-1 UL 508
► NC contacts	Positive opening	IEC/EN 60947-5-1
► Electrical ratings	<b>Alternating current</b> AC15 - A 600  <b>Minimum operating current</b> - standard blocks Ue = 24 V DC and Ie = 5 mA Failure rate < 10 <sup>-8</sup>	<b>Direct current</b> DC13 - Q 600  - gold plated contacts Ue = 5 V DC and Ie = 1 mA Failure rate < 10 <sup>-8</sup>
	<b>UL508</b>  Alternating Current 50/60Hz - <b>A600</b> Continuous Current - 10 amps Rated Voltage - 600Vac	
	Direct Current - <b>Q600</b> Continuous Current - 2.5 amps Rated Voltage - 600Vdc	
► Applicable wire sizes	Rigid or flexible wire without ferrule: 0.5 mm <sup>2</sup> to 2 x 2.5 mm <sup>2</sup> Rigid or flexible wire with ferrule: 0.5 mm <sup>2</sup> to 2 x 1.5 mm <sup>2</sup>	

### Faston connection

► Rated insulation voltage	320 V AC 300 V AC	IEC/EN60947-1 UL 508
► NC contacts	Positive opening	IEC/EN 60947-5-1
► Electrical ratings	<b>Alternating current</b> AC15 - A 300  <b>Minimum current of use</b> Ue = 24 V DC and Ie = 5 mA Failure rate < 10 <sup>-8</sup>	<b>Direct current</b> DC13 - Q 300  <b>UL508</b>  Alternating Current 50/60Hz - <b>A300</b> Continuous Current - 10 amps Rated Voltage - 300Vac
	Direct Current - <b>Q300</b> Continuous Current - 2.5 amps Rated Voltage - 300Vdc	
► Faston size	6.35 mm (0.25") or 2 x 2.8 mm (0.110")	

IP69K

IP66

Type 4X

## ▶ IP69K Stainless Steel Enclosures

No. of Holes	L	W	D	Part Number
1	100	100	85	LE-SS-01
2	160	100	85	LE-SS-02
3	220	100	85	LE-SS-03
4	280	100	85	LE-SS-04
4 (2 x2)	160	160	85	LE-SS-22
6	400	100	85	LE-SS-06
6 (3x2)	220	160	85	LE-SS-33



IP69K

IP66

Type 4X

## ► IP69K Stainless Steel Enclosures

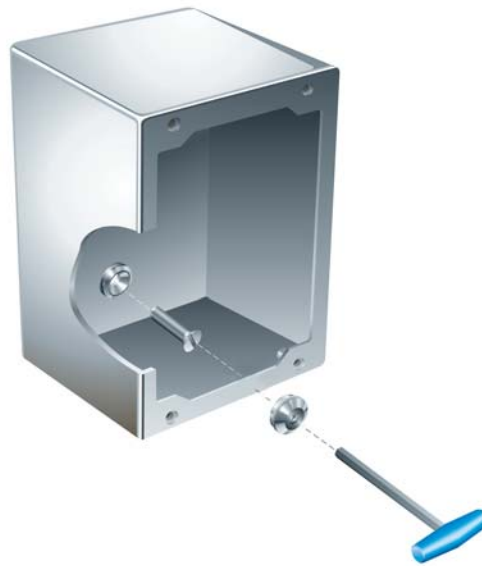
### Sealed Mounting System

Thanks to the unique design of the **Sealed Compartment Wall Fixing Points**, difficult to clean external mounting brackets are no longer required.

These exclusive Sealed Compartment Wall Fixing Points have been tested to 1000 PSI - 70 bar to provide maximum ingress protection.

Mounting an enclosure can be done in less time than it would take to drill one mounting hole.

- Remove the water seal cap with a 5mm Allen Key.
- Mount enclosure to wall or machine using No. 10 or M5 countersunk screws.
- Replace water seal cap tightening to 6NM or 53.1 in-lb of torque.



### Stand-Off Pillars

30mm Tall Stand-Off Pillars

#### Quantity

Pack of 2

Pack of 4

#### Part Number

PILLAR-2

PILLAR-4



**BACO<sup>®</sup>**  
**CONTROLS**

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