

# **SBN Pendant Pushbutton Station**

## **Technical Manual**



**MAGNETEK**  
MATERIAL HANDLING

Part Number: 126-11176 R2  
January 2016

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# Preface and Safety

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## Product Safety Information

Magnetek, Inc. (Magnetek) offers a broad range of radio remote control products, control products and adjustable frequency drives, industrial braking systems, and power delivery products for material handling applications. This manual has been prepared by Magnetek to provide information and recommendations for the installation, use, operation and service of Magnetek's material handling products and systems (Magnetek Products). Anyone who uses, operates, maintains, services, installs or owns Magnetek Products should know, understand and follow the instructions and safety recommendations in this manual for Magnetek Products.

The recommendations in this manual do not take precedence over any of the following requirements relating to cranes, hoists, lifting devices or other equipment which use or include Magnetek Products:

- Instructions, manuals, and safety warnings of the manufacturers of the equipment where the Magnetek Products are used,
- Plant safety rules and procedures of the employers and the owners of the facilities where the Magnetek Products are being used,
- Regulations issued by the Occupational Health and Safety Administration (OSHA),
- Applicable local, state, provincial, or federal codes, ordinances, standards and requirements, or
- Safety standards and practices for the industries in which Magnetek Products are used.

This manual does not include or address the specific instructions and safety warnings of these manufacturers or any of the other requirements listed above. It is the responsibility of the owners, users and operators of the Magnetek Products to know, understand and follow all of these requirements. It is the responsibility of the employer to make its employees aware of all of the above listed requirements and to make certain that all operators are properly trained.

No one should use Magnetek Products prior to becoming familiar with and being trained in these requirements and the instructions and safety recommendations for this manual.

## Product Warranty Information

Magnetek, hereafter referred to as Company, assumes no responsibility for improper programming of a device (such as a drive or radio) by untrained personnel. A device should only be programmed by a trained technician who has read and understands the contents of the relevant manual(s). Improper programming of a device can lead to unexpected, undesirable, or unsafe operation or performance of the device. This may result in damage to equipment or personal injury. Company shall not be liable for economic loss, property damage, or other consequential damages or physical injury sustained by the purchaser or by any third party as a result of such programming. Company neither assumes nor authorizes any other person to assume for Company any other liability in connection with the sale or use of this product.

For information on Magnetek's product warranties by product type, please visit [www.magnetek.com](http://www.magnetek.com).

## **DANGER, WARNING, CAUTION, and NOTE Statements**

Read and understand this manual before installing, operating, or servicing this product. Install the product according to this manual and local codes.

The following conventions indicate safety messages in this manual. Failure to heed these messages could cause fatal injury or damage products and related equipment and systems.



### **DANGER**

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.



### **WARNING**

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



### **CAUTION**

CAUTION indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also be used to alert against unsafe practices.

*NOTE: A NOTE statement is used to notify people of installation, operation, programming, or maintenance information that is important, but not hazard-related.*

# Product Technical Specifications

## Features

- Light weight and slim enclosures
- Variable composition stations
- Removable button caps and mark plates

## Pendant Electrical Rating

- General Use: Power rating: 3A, 250VAC, 50/60 Hz
- Heavy Duty: A300/AC-15
  - Rating codes for a-c control-circuit contacts at 50/60 Hz:
    - Make 60A, Break 6A at 120V
    - Make 30A, Break 3A at 240V

## Pendant Environmental Rating

- Ambient Air Temperature: Min. of -5°C (no freezing); Max. of 40°C

## Durability

- Enclosure
  - Material: Polycarbonate
  - Color: Yellow (Munsell 2.5Y8/12)
  - UV rated outdoor application

## Agency Approvals

- UL508
- CSA C22.2 No. 14

## Cable Specifications for Pendant

- Applicable Wire: AWG 16-18 (0.81-1.32mm<sup>2</sup>)

## Wired Pendant Cable Specifications

- AWG 16, 65/34 bare copper
- PVC yellow insulation
- Diameter for strain relief: 1/16" diameter, 7x7 galvanized aircraft cable
- UL VW-1, 600V
- CSA FT-1, 600V
- Temperature: -40°C to 90°C

# Standard Pendant Station Information

## Catalog Numbers

2-Button	2-Button - Momentary On/Off	SBN-2-WB
	2-Button - Maintained On/Off	SBN-2-WH
	2-Button - All Single-Speed	SBN-2-WA
	2-Button - All Two-Speed	SBN-2-WS
	2-Button - All Three-Speed	SBN-2-WT
3-Button	3-Button - Single-Speed with Emergency Stop (Rotate to Release)	SBN-3-WE
	3-Button - Two-Speed with Emergency Stop (Rotate to Release)	SBN-3-WES
	3-Button - Three-Speed with Emergency Stop (Rotate to Release)	SBN-3-WET
4-Button	4-Button - (2) Single-Speed with Momentary On/Off	SBN-4-WB
	4-Button - (2) Two-Speed with Momentary On/Off	SBN-4-WBS
	4-Button - (2) Three-Speed with Momentary On/Off	SBN-4-WBT
	4-Button - (2) Single-Speed with Maintained On/Off	SBN-4-WH
	4-Button - (2) Two-Speed with Maintained On/Off	SBN-4-WHS
	4-Button - (2) Three-Speed with Maintained On/Off	SBN-4-WHT
	4-Button - All Single-Speed	SBN-4-WA
	4-Button - All Two-Speed	SBN-4-WS
	4-Button - All Three-Speed	SBN-4-WT
5-Button	5-Button - (2) Single-Speed with Emergency Stop (Rotate to Release)	SBN-5-WE
	5-Button - (2) Two-Speed with Emergency Stop (Rotate to Release)	SBN-5-WES
	5-Button - (2) Three-Speed with Emergency Stop (Rotate to Release)	SBN-5-WET
6-Button	6-Button - (4) Single-Speed with Momentary On/Off	SBN-6-WB
	6-Button - (4) Two-Speed with Momentary On/Off	SBN-6-WBS
	6-Button - (4) Three-Speed with Momentary On/Off	SBN-6-WBT
	6-Button - (4) Single-Speed with Maintained On/Off	SBN-6-WH
	6-Button - (4) Two-Speed with Maintained On/Off	SBN-6-WHS
	6-Button - (4) Three-Speed with Maintained On/Off	SBN-6-WHT
	6-Button - All Single-Speed	SBN-6-WA
	6-Button - All Two-Speed	SBN-6-WS
	6-Button - All Three-Speed	SBN-6-WT

7-Button	7-Button - (3) Single-Speed with Emergency Stop (Rotate to Release)	SBN-7-WE
	7-Button - (3) Two-Speed with Emergency Stop (Rotate to Release)	SBN-7-WES
	7-Button - (3) Three-Speed with Emergency Stop (Rotate to Release)	SBN-7-WET
8-Button	8-Button - (6) Single-Speed with Momentary On/Off	SBN-8-WB
	8-Button - (6) Two-Speed with Momentary On/Off	SBN-8-WBS
	8-Button - (6) Three-Speed with Momentary On/Off	SBI-8-WBT
	8-Button - (6) Single-Speed with Maintained On/Off	SBN-8-WH
	8-Button - (6) Two-Speed with Maintained On/Off	SBN-8-WHS
	8-Button - (6) Three-Speed with Maintained On/Off	SBI-8-WHT
	8-Button - All Single-Speed	SBN-8-WA
	8-Button - All Two-Speed	SBN-8-WS
8-Button Tandem	8-Button Tandem - (6) Single-Speed with Momentary On/Off	SBIT-8-WB
	8-Button Tandem - (6) Two-Speed with Momentary On/Off	SBIT-8-WBS
	8-Button Tandem - (6) Three-Speed with Momentary On/Off	SBIT-8-WBT
	8-Button Tandem - (6) Single-Speed with Maintained On/Off	SBIT-8-WH
	8-Button Tandem - (6) Two-Speed with Maintained On/Off	SBIT-8-WHS
	8-Button Tandem - (6) Three-Speed with Maintained On/Off	SBIT-8-WHT
	8-Button Tandem - All Single-Speed	SBIT-8-WA
	8-Button Tandem - All Two-Speed	SBIT-8-WS
10-Button	10-Button - (8) Single-Speed with Momentary On/Off	SBN-10-WB
	10-Button - (8) Two-Speed with Momentary On/Off	SBN-10-WBS
	10-Button - (8) Three-Speed with Momentary On/Off	SBN-10-WBT
	10-Button - (8) Single-Speed with Maintained On/Off	SBN-10-WH
	10-Button - (8) Two-Speed with Maintained On/Off	SBN-10-WHS
	10-Button - (8) Three-Speed with Maintained On/Off	SBN-10-WHT
	10-Button - All Single-Speed	SBN-10-WA
	10-Button - All Two-Speed	SBN-10-WS
	10-Button - All Three-Speed	SBN-10-WT

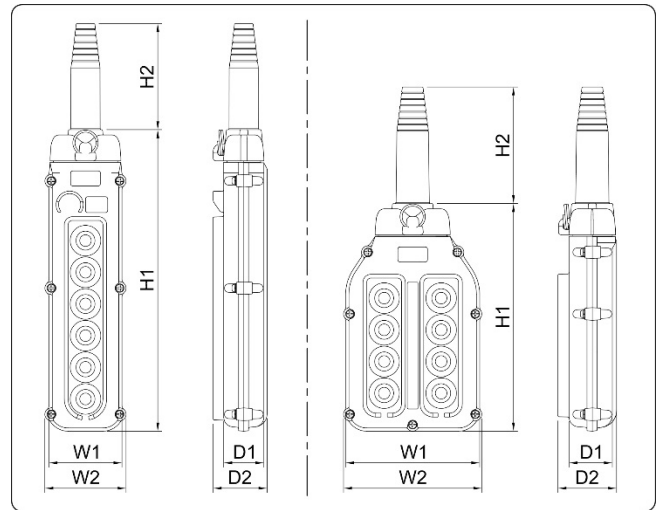
12-Button	12-Button - (10) Single-Speed with Momentary On/Off	SBN-12-WB
	12-Button - (10) Two-Speed with Momentary On/Off	SBN-12-WBS
	12-Button - (10) Three-Speed with Momentary On/Off	SBN-12-WBT
	12-Button - (10) Single-Speed with Maintained On/Off	SBN-12-WH
	12-Button - (10) Two-Speed with Maintained On/Off	SBN-12-WHS
	12-Button - (10) Three-Speed with Maintained On/Off	SBN-12-WHT
	12-Button - All Single-Speed	SBN-12-WA
	12-Button - All Two-Speed	SBN-12-WS
	12-Button - All Three-Speed	SBN-12-WT

## Standard Configuration Labeling

Standard Button Labeling for Power Pendant Configuration								
2-Button	3-Button	4-Button	5-Button	6-Button	7-Button	8-Button	10-Button	12-Button
ON	E-Stop Button	ON	E-Stop Button	ON	E-Stop Button	ON	ON	ON
OFF	UP	OFF	UP	OFF	UP	OFF	OFF	OFF
	DOWN	UP	DOWN	UP	DOWN	UP	UP	UP
		DOWN	RIGHT	DOWN	RIGHT	DOWN	DOWN	DOWN
			LEFT	RIGHT	LEFT	RIGHT	UP	UP
				LEFT	FWD	LEFT	DOWN	DOWN
					REV	FWD	RIGHT	RIGHT
						REV	LEFT	LEFT
							FWD	FWD
							REV	REV
								CLOSE
								OPEN

Standard Button Labeling for Motion Pendant Configuration								
2-Button	3-Button	4-Button	5-Button	6-Button	7-Button	8-Button	10-Button	12-Button
UP	START	UP	START	UP	START	UP	ON	ON
DOWN	UP	DOWN	UP	DOWN	UP	DOWN	OFF	OFF
	DOWN	RIGHT	DOWN	RIGHT	DOWN	UP	UP	UP
		LEFT	RIGHT	LEFT	RIGHT	DOWN	DOWN	DOWN
			LEFT	FWD	LEFT	RIGHT	UP	UP
				REV	FWD	LEFT	DOWN	DOWN
					REV	FWD	RIGHT	RIGHT
						REV	LEFT	LEFT
							FWD	FWD
							REV	REV
								CLOSE
								OPEN

## Enclosure Dimensions and Weights



Enclosure (Model)	Dimensions							Cable size diameter
	Weight	H1	H2	W1	W2	D1	D2	
2 Button (SBN-2-W)	0.7 lb.	134.5mm (5.30")	90.5mm (3.56")	69mm (2.72")	77mm (3.03")	38mm (1.50")	51mm (2.01")	8 - 17mm (0.315" - 0.669")
3 Button (SBN-3-W)	0.8 lb.	167.5mm (6.59")						
4 Button (SBN-4-W)	1.0 lb.	198.5mm (7.81")						
5 Button (SBN-5-W)	1.1 lb.	229.5mm (9.04")	100.5mm (3.96")	110.5mm (4.35")	81mm (3.19")		51.5mm (2.03")	15 - 25.5mm (0.591" - 1.004")
6 Button (SBN-6-W)	1.4 lb.	285.5mm (11.24")						
7 Button (SBN-7-W)	1.5 lb.	315.5mm (12.42")						
8 Button (SBN-8-W)	1.6 lb.	345.5mm (13.60")						
10 Button (SBN-10-W)	2.0 lb.	405.5mm (15.96")						
12 Button (SBN-12-W)	2.4 lb.	470.5mm (18.52")	120.5mm (4.74")	76mm (2.99")	84mm (3.31")			
8 Button Tandem (SBIT-8-W)	1.6 lb.	215.5mm (8.48")	110.5mm (4.35")	119mm (4.69")	131mm (5.16")	41mm (1.61")	55.5mm (2.19")	15 - 25.5mm (0.591" - 1.004")

# Pendant Cables

## Catalog Numbers

Description	Catalog Number
16 Awg 8 Conductor with External Strain Relief	R-16/8SR
16 Awg 12 Conductor with External Strain Relief	R-16/12SR
16 Awg 16 Conductor with External Strain Relief	R-16/16SR
16 Awg 24 Conductor with External Strain Relief	R-16/24SR
16 Awg 8 Conductor without Strain Relief	R-16/8
16 Awg 12 Conductor without Strain Relief	R-16/12
16 Awg 16 Conductor without Strain Relief	R-16/16
16 Awg 24 Conductor without Strain Relief	R-16/24

# Spare Parts and Accessories

## Catalog Numbers

Description	Catalog Number
Single-Speed 2-Button Switch (NO per button)*	SBU-A-B
Single-Speed 2-Button Switch (2 NO per button)*	SBU-2A-B
Single-Speed 2-Button Switch (NO/NC per button)*	SBU-AB-B
Single-Speed 2-Button Switch (NO+NO/NC+NC per button)*	SBIU-2A2B-B
Two-Speed 2-Button Switch*	SBU-S-B
Three-Speed 2-Button Switch*	SBIU-T2-B
Momentary On/Off 2-Button Switch*	SBU-B-B
Maintained On/Off 2-Button Switch (NO)*	SBU-H2-B
Maintained On/Off 2-Button Switch (NO/NC)*	SBU-H3-B
Single-Speed 1-Button Switch (NO)*	SBIU-A1-B
Single-Speed 1-Button Switch (NO/NC)*	SBIU-AB1-B
2-Position Key Switch*	SBIU-KS2-B
4-Position Key Switch*	SBIU-KS4-B
2-Position Selector Switch*	SBIU-L2-B
3-Position Selector Switch (NC in Center Position)*	SBIU-L3-B
3-Position Selector Switch (NO in Center Position)*	SBIU-L3B-B
Mushroom Head Emergency Stop Device (Rotate to Release)*	SBIU-E-B
Buzzer Switch (Mounts in Upper Left)*	SBU-BzS-B
Red Pilot Light (Mounts in Upper Left)*	PLH-120R
Green Pilot Light (Mounts in Upper Left)*	PLH-120G
Yellow (Orange) Pilot Light (Mounts in Upper Left)*	PLH-120Y
Transparent Pilot Light (Mounts in Upper Left)*	PLH-120T
Buzzer Switch (Mounts in Standard hole)*	SBU-BzSX-B
Red Pilot Light (Mounts in Standard hole)*	PLX-120R
Green Pilot Light (Mounts in Standard hole)*	PLX-120G
Yellow (Orange) Pilot Light (Mounts in Standard hole)*	PLX-120Y
Transparent Pilot Light (Mounts in Standard hole)*	PLX-120T
2-Button Enclosure front & back with gasket and hardware	SBN-AE2
3-Button Enclosure front & back with gasket and hardware	SBN-AE3
4-Button Enclosure front & back with gasket and hardware	SBN-AE4
5-Button Enclosure front & back with gasket and hardware	SBN-AE5
6-Button Enclosure front & back with gasket and hardware	SBN-AE6

\*see Appendix 1: Switch Schematics for more information.

<b>Description</b>	<b>Catalog Number</b>
7-Button Enclosure front & back with gasket and hardware	SBN-AE7
8-Button Enclosure front & back with gasket and hardware	SBN-AE8
8-Button Tandem Enclosure front & back with gasket and hardware	SBIT-AE8
10-Button Enclosure front & back with gasket and hardware	SBN-AE10
12-Button Enclosure front & back with gasket and hardware	SBN-AE12
Enclosure Top Assembly fits 2-6 Button pendants & 6.5-15.5mm Cables	SBN-ATOPA
Enclosure Top Assembly fits 2-6 Button pendants & 11.5-20.5mm Cables	SBN-ATOPB
Enclosure Top Assembly fits 7, 8, and 10 Button pendants & 13.5-24.0mm Cables	SBN-ATOPC
Enclosure Top Assembly fits 12 Button pendants & 15.5-26.0mm Cables	SBN-ATOPD
Cable Armor only, fits 2-6 Button pendants & 6.5-15.5mm Cables	SBN-PARMA
Cable Armor only, fits 2-6 Button pendants & 11.5-20.5mm Cables	SBN-PARMB
Cable Armor only, fits 7, 8, and 10 Button pendants & 13.5-24.0mm Cables	SBN-PARMC
Cable Armor only, fits 12 Button pendants & 15.5-26.0mm Cables	SBN-PARMD
Button Cap Assembly Red	WC-RS
Button Cap Assembly Green	WC-GS
Button Cap Assembly Black	WC-BS
Clear Acrylic Marker Plate with Standard Legend Sheet**	LENS-CA
Auxiliary Cable Armor 8-13mm	HAI-7
Auxiliary Cable Armor 13-17mm	HAI-12
Auxiliary Cable Armor 17-27.5mm	HAI-16
Key Ring	009-4008
Dog Clip	009-4036
Thimble	003-2051
Pendant Warning Label	001-9999

*\*see Appendix 1: Switch Schematics for more information.*

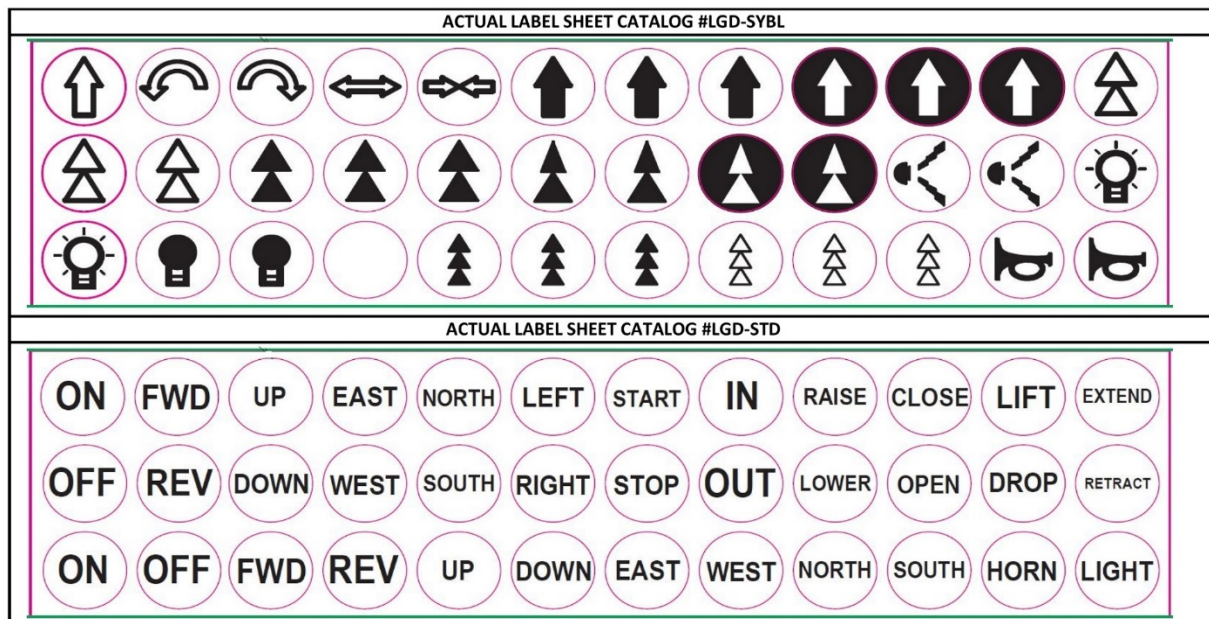
*\*\*see Label Sheet Images for more information.*

## Enclosures and Top Matrix













































# of Holes	Model	Enclosure Catalog #	ENC TYPE	TOP & AUX , SP
2	SBN-2-W	#SBN-AE2	STD	#SBN-ATOPA
3	SBN-3-W	#SBN-AE3		
4	SBN-4-W	#SBN-AE4		
5	SBN-5-W	#SBN-AE5		STD w AUX
6	SBN-6-W	#SBN-AE6		
7	SBN-7-W	#SBN-AE7	#SBN-ATOPC	
8	SBN-8-W	#SBN-AE8		TANDEM
	SBIT-8-W	#SBIT-AE8		
10	SBN-10-W	#SBN-AE10	STD w AUX	#SBN-ATOPD
12	SBN-12-W	#SBN-AE12		

## Label Sheets

### Actual Label Sheets



### Image Reference Numbers

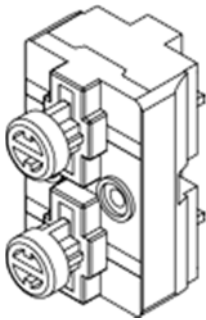
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	A2		A13		A24		S9
	A3		A14		A25		S10
	A4		A15		A26		S11
	A5		A16		S1		S12
	A6		A17		S2		S13
	A7		A18		S3		S14
	A8		A19		S4		S15
	A9		A20		S5		S16
	A10		A21		S6		S17
	A11		A22		S7		S18

## Switch Information

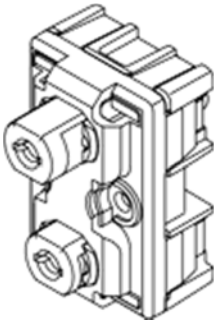
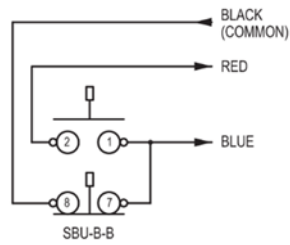
SP/CAT#	Rating	Description	Switch ref.	Button Hood	Mounting Screw Type	Mounting Screw Qty	# of Conductors
#SBIU-E-B	3 Amps 250 VAC	E-STOP, TURN TO RELEASE, N.O. & N.C. (1a+1b)	E	NO	M4x10	2	2
#SBIU-A1-B		MOMENTARY, 1 HOLE, N.O. (1a)	A1	YES	M4x10	2	1
#SBIU-AB1-B		MOMENTARY, 1 HOLE, N.O. & N.C. (1a+1b)	AB1	YES	M4x10	2	2
#SBU-B-B		MOMENTARY, 2 HOLE, N.O., N.C. (1a , 1b)	B	YES	M4x10	2	2
#SBU-H2-B		MAINTAINED, 2 HOLE, N.O., -- (1a , --)	H2	YES	M4x18	2	1
#SBU-H3-B		MAINTAINED, 2 HOLE, N.O., N.C. (1a , 1b)	H3	YES	M4x18	2	2
#SBU-A-B		1 SPEED, 2 HOLE, N.O., N.O. (1a , 1a)	A	YES	M4x18	2	2
#SBU-AB-B		1 SPEED, 2 HOLE, N.O. + N.C., N.O. + N.C. (1a+1b , 1a+1b)	AB	YES	M4x18	2	4
#SBU-2A-B		1 SPEED, 2 HOLE, 2N.O., 2N.O. (2a , 2a)	2A	YES	M4x18	2	4
#SBIU-2A2B-B		1 SPEED, 2 HOLE, 2N.O.+2N.C., 2N.O.+2N.C. (2a+2b , 2a+2b)	2A2B	YES	M4x18	2	8
#SBU-S-B		2 SPEED, 2 HOLE, N.O.+N.O., N.O.+N.O. (1a+1a , 1a+1a)	S	YES	M4x18	2	3
#SBIU-T2-B		3 SPEED, 2 HOLE, N.O. + N.O. + N.O., N.O. + N.O. + N.O. (1a+1a+1a , 1a+1a+1a)	T	YES	M4x18	4	4
#SBIU-KS2-B		SELECTOR, KEYED, 2 POSITIONS	KS2	NO	M4x10	2	2
#SBIU-KS4-B		SELECTOR, KEYED, 4 POSITIONS	KS4	NO	M4x10	2	2
#SBIU-L2-B		SELECTOR, 2 POSITIONS	L2	NO	M4x10	2	2
#SBIU-L3-B		SELECTOR, 3 POSITIONS, N.C. ON CENTER	L3	NO	M4x10	2	2
#SBIU-L3B-B		SELECTOR, 3 POSITIONS, N.O. ON CENTER	L3B	NO	M4x10	2	2
#SBU-BzS-B		AUX, MOMENTARY BUTTON	BZS	NO	Nut M14XP1.5	1	1
#SBU-BzSX-B		STD HOLE, MOMENTARY BUTTON	BZX	NO	M4x10	2	1
#PLH-120R	120 VAC	AUX, PILOT LIGHT (120V), RED	RP	NO	Nut M14XP1.5	1	1
#PLH-120G		AUX, PILOT LIGHT (120V), GREEN	GP	NO	Nut M14XP1.5	1	1
#PLH-120Y		AUX, PILOT LIGHT (120V), ORANGE	YP	NO	Nut M14XP1.5	1	1
#PLH-120T		AUX, PILOT LIGHT (120V), CLEAR	TP	NO	Nut M14XP1.5	1	1
#PLX-120R		STD HOLE, PILOT LIGHT (120V), RED	RPX	NO	M4x10	2	1
#PLX-120G		STD HOLE, PILOT LIGHT (120V), GREEN	GPX	NO	M4x10	2	1
#PLX-120Y		STD HOLE, PILOT LIGHT (120V), ORANGE	YPX	NO	M4x10	2	1
#PLX-120T		STD HOLE, PILOT LIGHT (120V), CLEAR	TPX	NO	M4x10	2	1
#WPI-Y	N/A	STD HOLE, PLASTIC RIGID BLANK	Y	NO	M4x10	2	0
#WC-M		STD HOLE, BLACK SILICONE RUBBER BLANK	M	NO	M4x10	2	0

# Appendices

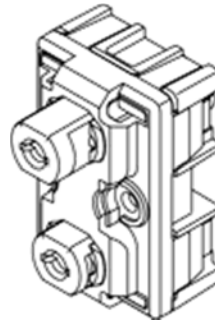
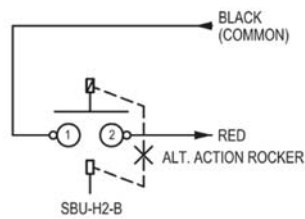
## Appendix 1: Switch Schematics



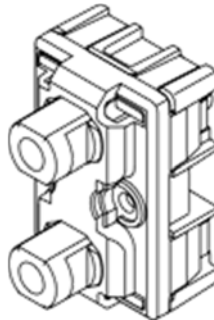
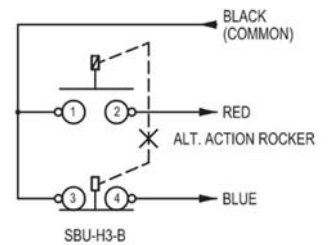
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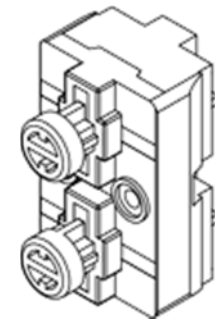
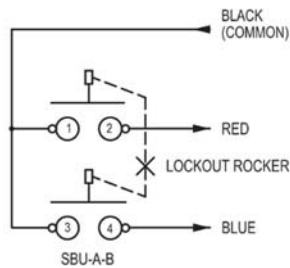
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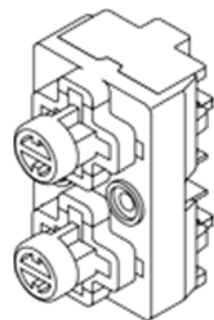
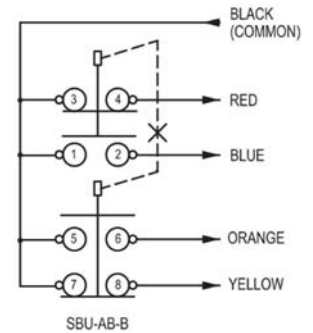
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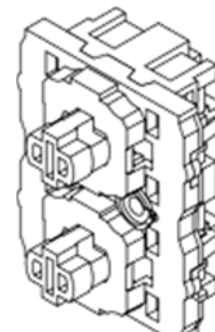
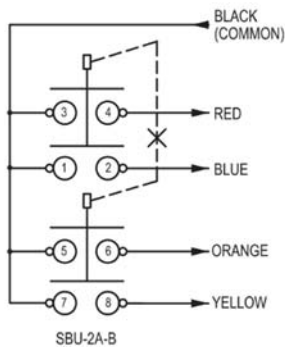
Model: SBU-A-B



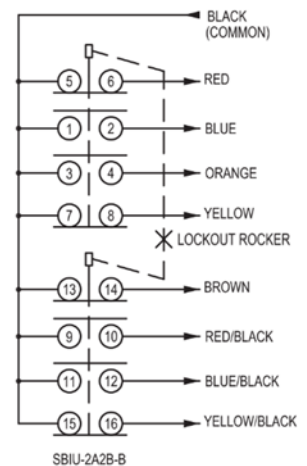
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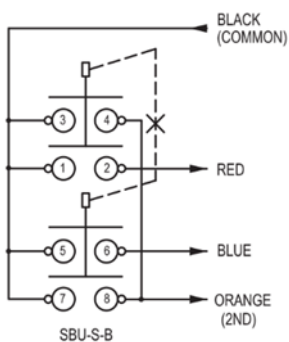
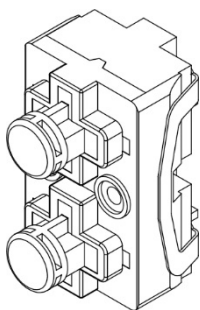


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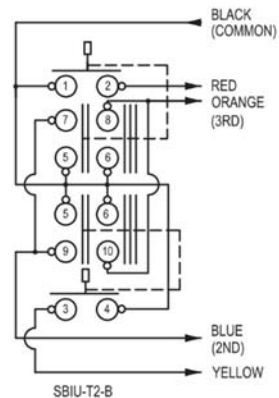
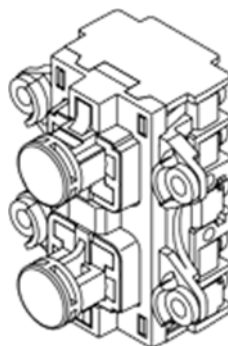


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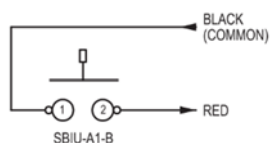
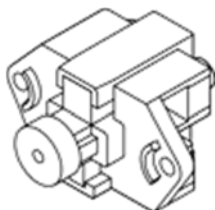




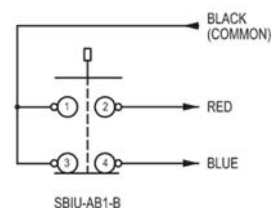
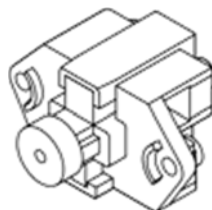
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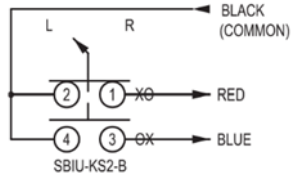
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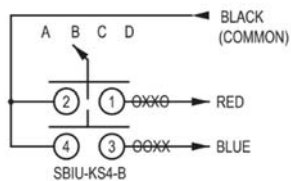
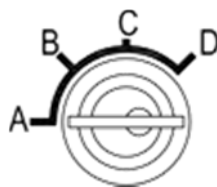
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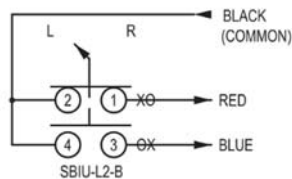
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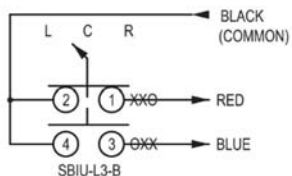
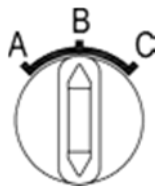
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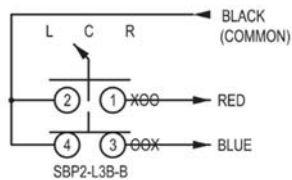
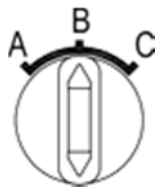
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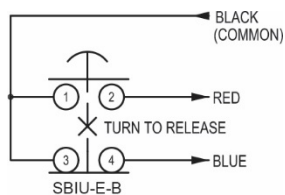
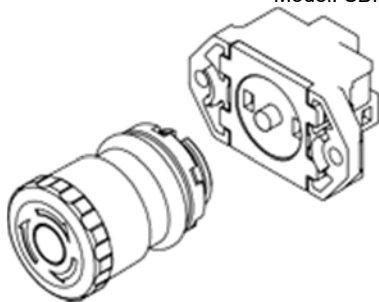
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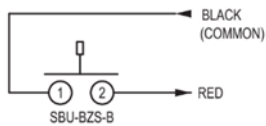
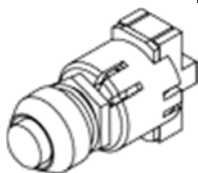
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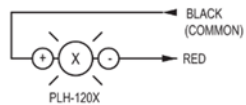
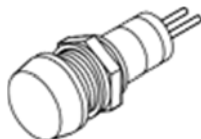
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Model: SBIU-E-B



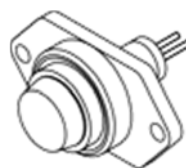
Model: SBU-BzS-B



Model: PLH-120



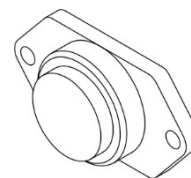
Models: WC-M and WPI-Y



Pilot Light with Blank Plug



WC-M Blind Cover



WPI-Y Blank Plug with O-Ring Seal

## Appendix 2: Switch Compatibility Matrix

	Contact Configuration		SBN	SBP
Momentary not mechanically intern locked	1 N.O.	1 N.C.	#SBU-B-B	
	1 N.O.	1 N.C.	#SBPU-B	
Maintained on/off	1 N.O.	-	#SBU-H2-B	
	1 N.O.	-	#SBPU-H2	
	1 N.O.	1 N.C.	#SBU-H3-B	
	1 N.O.	1 N.C.	#SBPU-H3	
Momentary Single Speed	1 N.O.	1 N.O.	#SBU-A-B	
	1 N.O.	1 N.O.	#SBPU-A2	
	1 N.O. + 1 N.C.	1 N.O. + 1 N.C.	#SBU-AB-B	
	1 N.O. + 1 N.C.	1 N.O. + 1 N.C.	#SBPU-AB	
	2 N.O.	2 N.O.	#SBU-2A-B	
	2 N.O.	2 N.O.	#SBPU-D2	
	2 N.O. + 2 N.C.	2 N.O. + 2 N.C.	#SBIU-2A2B-B	-
Momentary Two Speed	1 N.O. (1 N.O.)	1 N.O. (1 N.O.)	#SBU-S-B	#SBPU-S
Momentary Three Speed	1 N.O. (1 N.O.) [1 N.O.]	1 N.O. (1 N.O.) [1 N.O.]	#SBIU-T2-B	#SBPU-T
E-Stop Rotate to Release	1 N.O. + 1 N.C.	-	#SBIU-E-B	#SBPU-SMMH
Key Switch	1 N.O.	-	#SBIU-KS2-B	#SBPU-KS2
	1 N.O. + 1 N.C.	-	#SBIU-KS4-B	#SBPU-KS4
Selector Switch	1 N.O.	-	#SBIU-L2-B	#SBPU-L2
	1 N.O. + 1 N.O.	-	#SBIU-L3-B	#SBPU-L3
	1 N.O. + 1 N.O.	-	#SBIU-L3B-B	#SBPU-L3B
Momentary Single hole	1 N.O.	-	#SBIU-A1-B	-
	1 N.O. + 1 N.C.	-	#SBIU-AB1-B	-
Horn	1 N.O.	-	#SBU-BzS-B	#SBPU-BZS
	1 N.O.	-	#SBU-BzSX-B	#SBPU-ABZS
Pilot Lights	120V	-	#PLH-120_	#SBPU-PL-__
	120V	-	#PLX-120_	#SBPU-PLX-__
Blank	-	-	#WPI-Y	#SBPU-BLNK
	-	-	#WPI-X	-
	-	-	#WC-M	-
Lens	-	-	#LENS-CA	#LENS
Legend Sheet	-	-	#LEGEND	
	-	-	#LGD-STD	
	-	-	#LGD-SYBL	

## Appendix 3: Switch Travel and Forces

### Power Switches

Power Switches				
		ON (ozf / in)	ON (ozf / in)	Total Travel (in)
<b>SBU-B-B</b>	Operating Force	43	32	0.27
	Operating Distance	0.23	0.12	
<b>SBU-H2-B</b>	Operating Force	97	83	0.26
	Operating Distance	0.13	0.12	
<b>SBU-H3-B</b>	Operating Force	97	83	0.26
	Operating Distance	0.13	0.12	
<b>SBIU-E-B</b>	Operating Force	-	86	0.34
	Operating Distance	-	0.21	

### Motion Switches

Motion Switches						
		SPEED 1 (Break) (ozf / in)	SPEED 1 (Make) (ozf / in)	SPEED 2 (ozf / in)	SPEED 3 (ozf / in)	Total Travel (in)
<b>SBU-A-B</b>	Operating Force	36	-	-	-	0.26
	Operating Distance	0.21	-	-	-	
<b>SBU-2A-B</b>	Operating Force	36	-	-	-	0.27
	Operating Distance	0.22	-	-	-	
<b>SBU-AB-B</b>	Operating Force	40	47	-	-	0.27
	Operating Distance	0.13	0.23	-	-	
<b>SBIU-2A2B</b>	Operating Force	47	47	-	-	0.27
	Operating Distance	0.14	0.22	-	-	
<b>SBU-S-B</b>	Operating Force	40	-	72	-	0.29
	Operating Distance	0.21	-	0.27	-	
<b>SBIU-T2-B</b>	Operating Force	43	-	58	76	0.31
	Operating Distance	0.1	-	0.2	0.3	
<b>SBIU-A1</b>	Operating Force	32	-	-	-	0.27
	Operating Distance	0.23	-	-	-	
<b>SBIU-AB1</b>	Operating Force	32	40	-	-	0.26
	Operating Distance	0.11	0.23	-	-	

## Appendix 4: Configured Pendant Sheet

Company Name:

Quote Reference:

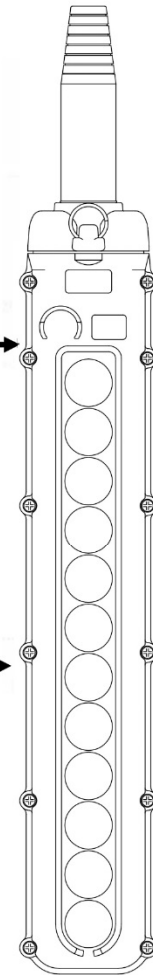
Contact Name:

Instructions:

1. Choose switch from "switch information" table.
  - a. If switch requires 2 holes, skip the next button location.
  - b. If switch requires a button hood, choose a color (Green/Red/Black); one per hole location.
 Also choose button operation label reference number by using table.
3. Add up number of conductors needed and add spares if required .
4. Add number of button holes used to determine pendant enclosure size.
  - a. Be sure to add Blanks when needed.
  - b. If number of holes add up to 9 or 11, roundup to 10 or 12, and add a blank in one of the hole locations.
4. Build Configuration part number by using "Switch ref."
- a. If an accessory pilot or button is needed start with its reference first.
5. Add up prices of individual switches and the pendant enclosure size.

			No. of			
			Switch ref.	Conductors	Price	
Accessory pilot light or button ==>						
(only available for 7 button or larger enclosures)						
			Price			
Hole Location	Button Hood Color	Button Label ref. No.	Switch ref.	No. of Conductors	Switch	Hood
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
Spare Conductors==>					-	
Pendant Enclosure Size==>					-	
Sub Total Price ==>				(	) + ( )	
				x	Multiplier	
Pendant Price ==>						

Catalog part number:



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