

# Harmony™ control stations and enclosures

Catalog  
2011





# Harmony™ control stations and enclosures

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Family	XAL	XAP
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XALD02



XAPA1100



XAPA1104

Type of Product/Material	XALD – Polycarbonate XALK – Polycarbonate	XAPA – glass filled polyester XAPG – die cast zinc XAPE – anodized aluminum
Number of holes	1 to 3	0 to 16
Type of Operators	XB5 (22mm)	XB5 (22mm)
Available without Operators	Yes	Yes
Available with Operators	Yes	No
Approvals	UL File E164353 CCN NKCR CSA File LR 44087 Class 3211-03	UL File E164353 CCN NKCR CSA File LR 44087 Class 3211-03
Conforming to Standards	CE Marked EN/IEC 60947-1, EN/IEC 60947-5-1, EN/IEC 60947-5-4, JIS C 4520 UL 508 CSA C22.2 No.14	CE Marked EN/IEC 60947-1, EN/IEC 60947-5-1, EN/IEC 60947-5-4, JIS C 4520 UL 508 CSA C22.2 No.14
Cable Entry	No. 13 knock out	XAPA – undrilled XAPG – Tapped 3/4NPT XAPE – flush mount (n/a) XAPE – fiber pull box
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**Family**

**9001B**

**9001KY/SKY**



NEMA 1 Surface Mounting 9001BG\*\*



NEMA 1 Flush Mounting 9001BF\*\*



NEMA 4 9001BW\*\*



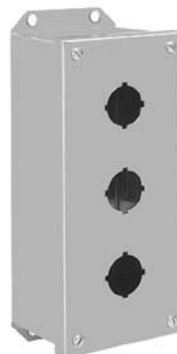
NEMA 7 and 9 9001BR\*\*



9001KYSS3



9001KY3



9001KYAF3



9001SKY2

<b>Type of Product/Material</b>	<p>9001BG – plastic cover                  9001BF – stainless steel                  9001BW – die cast zinc                  9001BR – cast aluminum</p>
<b>Number of holes</b>	1 to 3
<b>Type of Operators</b>	Built in
<b>Available without Operators</b>	No
<b>Available with Operators</b>	Yes
<b>Approvals</b>	<p>UL File E78403                  CCN NKCR                  CSA File LR 25490                  Class 3211-03</p>
<b>Conforming to Standards</b>	<p>CE Marked                  EN/IEC 60947-1,                  EN/IEC 60947-5-1,                  EN/IEC 60947-5-4,                  JIS C 4520                  UL 508                  CSA C22.2 No.14</p>
<b>Cable Entry</b>	<p>9001BG – 1/2" and 3/4" knockouts                  9001BF – none                  9001BW – 1/2 - 14 NPT                  9001BR – 1/2 - 14 NPT</p>
<b>Page</b>	20

<b>Type of Product/Material</b>	<p>KYAF – sheet steel                  KYSS – stainless steel                  KY – die cast zinc                  SKY – plastic</p>
<b>Number of holes</b>	1 to 6
<b>Type of Operators</b>	9001K/SK (30mm)
<b>Available without Operators</b>	Yes
<b>Available with Operators</b>	Yes
<b>Approvals</b>	<p>UL File E78403                  CCN NKCR                  CSA File LR 25490                  Class 3211-03</p>
<b>Conforming to Standards</b>	<p>CE Marked                  EN/IEC 60947-1,                  EN/IEC 60947-5-1,                  EN/IEC 60947-5-4,                  JIS C 4520                  UL 508                  CSA C22.2 No.14</p>
<b>Cable Entry</b>	<p>9001KYAF – undrilled                  9001KYSS – 3/4 - 14 NPT                  9001KY – 3/4 - 14 NPT                  9001SKY – 3/4 - 14 NPT</p>
<b>Page</b>	24

# Harmony™ control stations and enclosures



## Introduction

### XAL 22 mm polycarbonate control stations

XAL enclosures are available as empty enclosures with 22 mm diameter holes or as control stations with installed XB5 plastic operators.

### XAP 22 mm empty enclosures

XAPA glass-reinforced polyester enclosures, XAPG die-cast zinc enclosures, and XAPE anodized aluminum flush mount enclosures are available with or without 22 mm holes for use with XB4 metal and XB5 plastic operators.

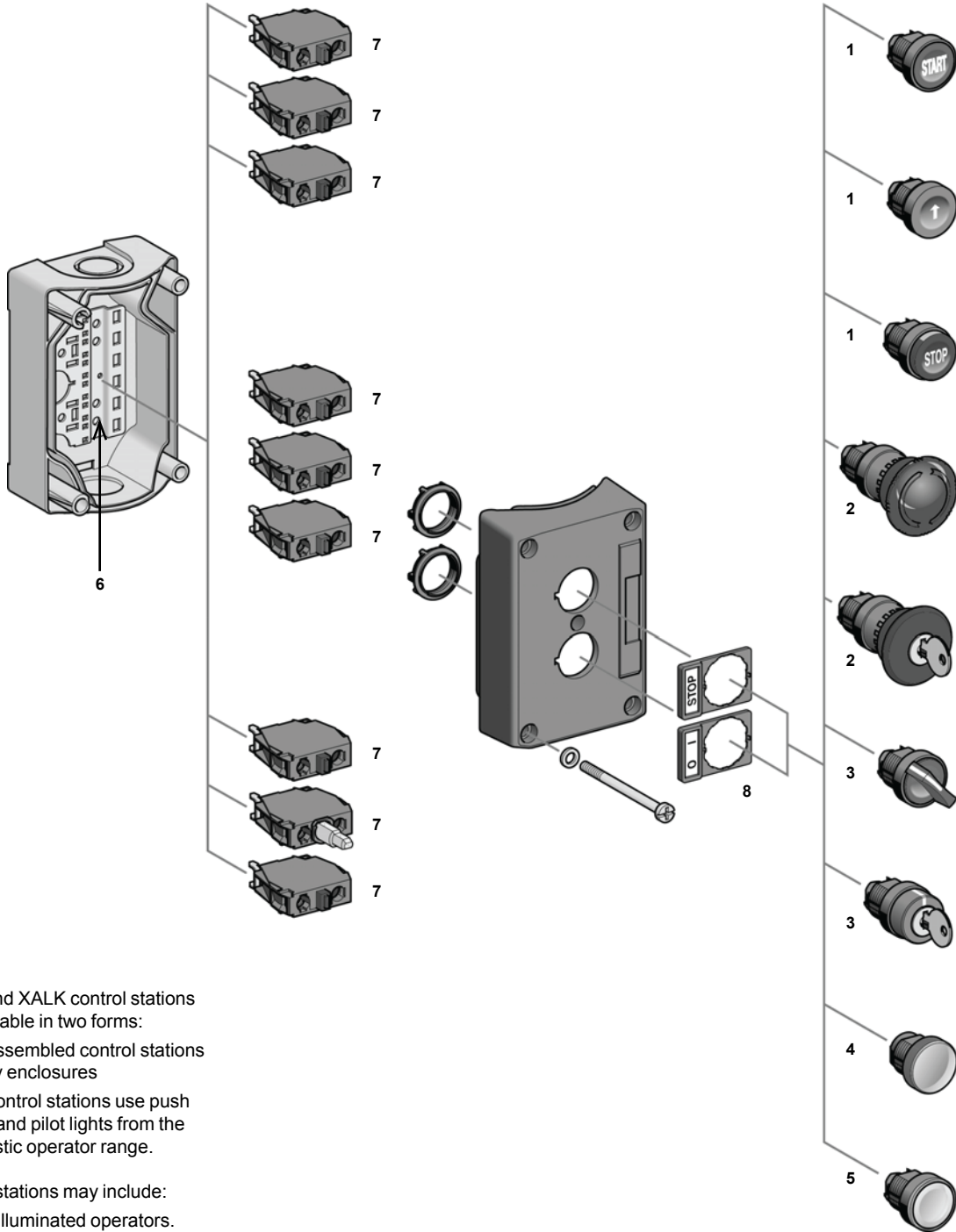
### 9001B standard duty control stations

9001B control stations are fully assembled units with one, two or three product-specific operators. Various enclosure options include NEMA 1, flush plate, NEMA 4, and NEMA 7/9.

### 9001KY/SKY control stations

9001KY and 9001SKY enclosures are available as empty enclosures with 30 mm diameter holes or as control stations with installed 9001K or 9001SK operators.

Components



XALD and XALK control stations are available in two forms:

- Pre-assembled control stations
- Empty enclosures




These control stations use push buttons and pilot lights from the XB5 plastic operator range.

Control stations may include:

- 1 - Non-illuminated operators.
- 2 - Mushroom head operators.
- 3 - Selector switches.
- 4 - Pilot lights.
- 5 - Illuminated operators.
- 6 - Base of enclosure (with mounting plate).
- 7 - Contact block and light module combinations.
- 8 - Legends.

# Harmony™ control stations and enclosures

## XAL 22 mm control stations

Environmental Specifications		
Protective treatment standard version		"TH"
Ambient air temperature around the device	Storage	-40 to +158 °F (- 40 to +70 °C)
	Operation	-13 to +158 °F (- 25 to +70 °C) unless otherwise stated
Electric shock protection	Conforming to IEC 60536	Class II
Degree of protection	Conforming to IEC 60529	IP 65, unless otherwise stated IP 66, for booted push button heads
	Conforming to UL 50, CSA C22.2 No. 94	Type 1, 4X, 12, and 13, unless otherwise stated
Resistance to high pressure cleaner		1,015 psi (70 x 10 <sup>5</sup> Pa-70 bars); distance: 3.94 in (0.1 m) Temperature: 131 °F (55 °C)
Mechanical shock protection	Conforming to EN 50102	Non-illuminated heads: IK 03
		Illuminated heads: IK 05
Conforming to standards		IEC 60947-1, IEC/EN 60947-5-1, IEC 60947-5-4, EN 60947-1, JIS C 4520, UL 508, CSA C22.2 No. 14
Product certifications	UL Listed, CSA Certified  File E164353 CCN NKCR  File LR 44087 Class 3211 03	Standard single contacts with screw clamp terminals: A600; R300 Light blocks with screw clamp terminals
Terminal identification	Conforming to EN 50005 and EN 50013	
Material and colors		XALD: polycarbonate, light grey RAL 7035 and dark grey RAL 7016 XALK: polycarbonate, light grey RAL 7035 and yellow RAL 1012
Cable entries		Cable entries: 'knock-outs' for No. 13 (CM 12, PG 13.5) cable glands and tapped ISO 20
Cover Screws		Stainless steel, tightening torque 2 Nm (18 lb-in)

Contact Block Specifications – ZENL••			
Mechanical Specifications			
Contact operation	N/C or N/O	Slow break	
Positive operation	Conforming to IEC/EN 60947-5-1 Appendix K	All functions incorporating a N/C contact are positive opening operation	
Operating travel (to change electrical state)	Push button	Changing N/C state: 0.06 in (1.5 mm) Changing N/O state: 0.11 in (2.6 mm) Total travel: 0.17 in (4.3 mm)	
	Operating force	Push button	
Operating force	Push button	Changing N/C state: 0.79 lbf (3.5 N) Changing N/O state: 0.85 lbf (3.8 N)	
	Additional contact only	Single N/C contact: 0.45 lbf (2 N) Single N/O contact: 0.52 lbf (2.3 N)	
	Emergency stop with N/C + N/O	Standard push-pull: 10.12 lbf (45 N) Trigger action push-pull: 11.24 lbf (50 N)  Standard turn to release and key release: 8.99 lbf (40 N) Trigger action turn to release and key release: 9.89 lbf (44 N)	
Operating torque (to change electrical state)	Selector switches	N/O contact: 1.24 lb-in (0.14 N•m)	
	Additional contact only	N/O contact: 0.44 lb-in (0.05 N•m)	
Mechanical durability (in operating cycles)	Push button	Momentary	5 million
	Selector switches	Non-illuminated	3 million
		Illuminated	1 million
	Toggle switches		500,000
	Emergency stop push button		100,000
Vibration resistance	Conforming to IEC 60068-2-6	Frequency (2 to 500 Hz): 5 gn	
Shock resistance	Conforming to IEC 60068-2-27	All functions except mushroom head push buttons– Half sine wave acceleration 11 ms: 50 gn Half sine wave acceleration 18 ms: 30 gn	
		Mushroom head push buttons– Half sine wave acceleration 11 ms: 10 gn	



### Contact Block Specifications – ZENL•• (continued)

#### Electrical Specifications

<b>Cabling capacity</b>	Conforming to IEC 60947-1	Screw and captive clamp terminals Min: 1 x 24 AWG (0.22 mm <sup>2</sup> ) without cable end 1 x 22 AWG (0.34 mm <sup>2</sup> ) for linking Max: 2 x 16 AWG (1.5 mm <sup>2</sup> ) with cable end Cross headed screw (Pozidrive type 1) slotted for flat 4 and 5.5 mm screwdriver Typical torque: 0.8 N•m (8.55 lb-in) Maximum torque: 1.2 N•m (10.7 lb-in)		
<b>Contact material</b>		Silver alloy (Ag/Ni)		
<b>Short-circuit protection</b>	Conforming to IEC/EN 60947-5-1	Standard blocks with screw clamp terminals: 10 A (gG cartridge fuse conforming to IEC 60269-1)		
<b>Rated insulation voltage</b>	Conforming to IEC 60947-1	Standard blocks with screw clamp terminals: Ui = 600 V, degree of pollution 3		
<b>Rated impulse withstand voltage</b>	Conforming to IEC 60947-1	Standard block with screw clamp terminals: Uimp = 6 kV		
<b>Rated operational specifications Conforming to IEC/EN 60947-5-1</b>	AC supply: Utilization category AC-15	A600: Ue = 600 Vac and Ie = 1.2 A or Ue = 240 Vac and Ie = 3 A or Ue = 120 Vac and Ie = 6 A		
	DC supply: Utilization category DC-13	R300: Ue = 250 Vdc and Ie = 0.1 A or Ue = 125 Vdc and Ie = 0.22 A		
<b>Electrical durability Conforming to IEC/EN 60947-5-1 Appendix C Operating rate 3600 operating cycles/ hour. Load factor: 0.5</b>	AC supply for 1 million operating cycles, utilization category AC-15	24 Vac	120 Vac	230 Vac
		4 A	3 A	2 A
	DC supply for 1 million operating cycles, utilization category DC-13	24 Vdc	110 Vdc	
		0.4 A	0.15 A	
<b>Electrical reliability</b>	Failure rate Conforming to IEC 947-5-4	Standard blocks: - at 17 V and 5 mA, $\lambda < 10^{-8}$ - at 5 V and 1 mA, $\lambda < 10^{-6}$		

### Light Module Specifications– ZALV••

#### Mechanical Specifications

<b>Vibration resistance</b>	Conforming to IEC 60068-2-6	Frequency (2 to 500 Hz): 15 gn
<b>Shock resistance</b>	Conforming to IEC 60068-2-27	Half sine wave acceleration 11 ms: 50 gn
		Half sine wave acceleration 18 ms: 30 gn

#### Electrical Specifications

<b>Cabling capacity</b>	Conforming to IEC 60947-1	Screw and captive clamp terminals Min: 1 x 24 AWG (0.22 mm <sup>2</sup> ) without cable end 1 x 22 AWG (0.34 mm <sup>2</sup> ) for linking Max: 2 x 16 AWG (1.5 mm <sup>2</sup> ) with cable end Cross headed screw (Pozidrive type 1) slotted for flat 4 and 5.5 mm screwdriver Typical torque: 0.8 N•m (8.55 lb-in) Maximum torque: 1.2 N•m (10.7 lb-in)		
<b>Rated insulation voltage</b>	Conforming to IEC 60947-1	Pilot light blocks with protected LED: Ui = 250 V, degree of pollution 3		
<b>Rated impulse withstand voltage</b>	Conforming to IEC 60947-1	Pilot light blocks with protected LED: Uimp = 4 kV		
<b>Voltage limits</b>	Nominal voltage	24 V: 21.6 to 24.6 Vac; 19.2 to 30 Vdc 120V: 102 to 132 Vac 240V: 195 to 264 Vac		
<b>Current consumption</b>	Applicable to all colors	24 Vac/Vdc supply blocks: 18 mA 120 Vac supply blocks: 14 mA 240 Vac supply blocks: 14 mA		
<b>Service life</b>	At nominal voltage and at an ambient temperature of 77 °F (25 °C)	100,000 hours		
<b>Surge withstand</b>	Conforming to IEC 61000-4-5	2/1 kV		
<b>Resistance to fast transients</b>	Conforming to IEC 61000-4-4	2 kV		
<b>Resistance to electromagnetic fields</b>	Conforming to IEC 61000-4-3	10 V/m		
<b>Resistance to electrostatic discharges</b>	Conforming to IEC 61000-4-2	8/6 kV		
<b>Electromagnetic emission</b>	Conforming to EN 55011	Class B		

# Harmony™ control stations and enclosures

## XAL 22 mm control stations



XALD101

### Start or Stop Function Polycarbonate; Light gray base, RAL7035; Dark gray lid, RAL7016

Description	Type of Push	Type of Contact N.O.	N.C.	Marking	Reference
<b>Marking on Legend Holder</b>					
1 momentary push button	Flush black	1	—	Start	<b>XALD101</b>
	Flush red	—	1	Stop	<b>XALD111</b>
<b>Marking on Legend Holder</b>					
1 mushroom head push button 40 mm, momentary	Red	—	1	Emergency stop on red legend	<b>XALD164</b>



XALK174

### Emergency Stop or Emergency Off Function Polycarbonate; Light gray base, RAL7035; Yellow lid, RAL1012

Description	Type	Type of Contact N.O.	N.C.	Reference
1 mushroom head push button 40 mm, red Turn-to-release	Standard (1)	—	1	<b>XALK174</b>
	Trigger action (2)	—	1	<b>XALK178</b>
1 mushroom head push button 40 mm, red Key release (Key No. 455)	Standard (1)	—	1	<b>XALK184</b>
	Trigger action (2)	—	1	<b>XALK188</b>
1 mushroom head push button 40 mm, red Push-pull	Standard (1)	—	1	<b>XALK194</b>

(1) Emergency Off (IEC 60364-5-53)  
(2) Emergency Stop (EN / IEC 13850)



XALD211

### Start-Stop Function Polycarbonate; Light gray base, RAL7035; Dark gray lid, RAL7016

Description	Type of Push	Type of Contact N.O.	N.C.	Text	Reference
2 momentary push buttons	1 flush black	1	—	Start	<b>XALD211</b>
	1 flush red	—	1	Stop	
	1 flush black	1	—	Forward	<b>XALD221</b>
	1 flush black	1	—	Reverse	



XALD321

### Three Function Polycarbonate; Light gray base, RAL7035; Dark gray lid, RAL7016

Description	Type of Push	Type of Contact N.O.	N.C.	Text	Reference
3 momentary push buttons (no markings)	1 flush black	1	—	Open	<b>XALD341</b>
	1 flush red	—	1	Stop	
	1 flush black	1	—	Close	
		1	—	Forward	<b>XALD311</b>
		—	1	Stop	
		1	—	Reverse	
		1	—	Up	<b>XALD321</b>
		—	1	Stop	
		1	—	Down	

# Harmony™ control stations and enclosures

## XAL 22 mm control stations



XALD02

### Empty Enclosures – Polycarbonate (for use with XB5 plastic push buttons, pilot lights, selector switches, mushroom head operators, legend plates and accessories)

Description	Number of Holes	Reference
<b>For normal environments, CSA approved and UL Listed (with stainless steel lid mounting screws)</b>		
Light gray base RAL7035	1	XALD01
Dark gray lid RAL7016	2	XALD02
	3	XALD03
	4	XALD04
	5	XALD05
Light gray base RAL7035, Yellow lid RAL1012	1	XALK01



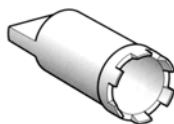
ZENL1111



ZALV\*\*



ZB5SZ3



ZB5AZ905

### Electrical Block and Accessories (for mounting on metal plate at back of enclosure)

Description	Type	Color	Reference
<b>Electrical blocks with screw clamp terminal connections</b>			
Metal-plate-mounting contact blocks	N.O. contact N.C. contact	— —	ZENL1111 ZENL1121
Light blocks with  <b>Protected LED</b>	24 Vac/Vdc	White	ZALVB1
		Green	ZALVB3
		Red	ZALVB4
		Yellow	ZALVB5
		Blue	ZALVB6
		120 Vac	White
	Green	ZALVG3	
	Red	ZALVG4	
	Yellow	ZALVG5	
	Blue	ZALVG6	
	230 Vac	White	ZALVM1
	Green	ZALVM3	
Red	ZALVM4		
Yellow	ZALVM5		
Blue	ZALVM6		

### Accessories

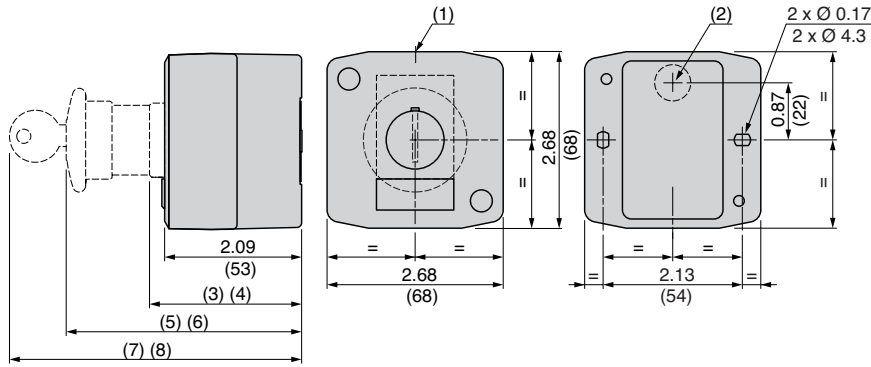
Description	Application	Reference
Plastic blanking plug, round-shape (must order mounting nut ZB5AZ901)	XALD●● enclosures	ZB5SZ3
Plastic blanking plug, square-shape (must order mounting nut ZB5AZ901)	XALD●● enclosures	ZB5SZ5
Mounting nut	ZB5SZ● blanking plug	ZB5AZ901
Grounding terminal	XALD●● enclosures	XALZ09
Tightening tool	Tightening head mounting nut ZB5AZ901	ZB5AZ905

# Harmony™ control stations and enclosures

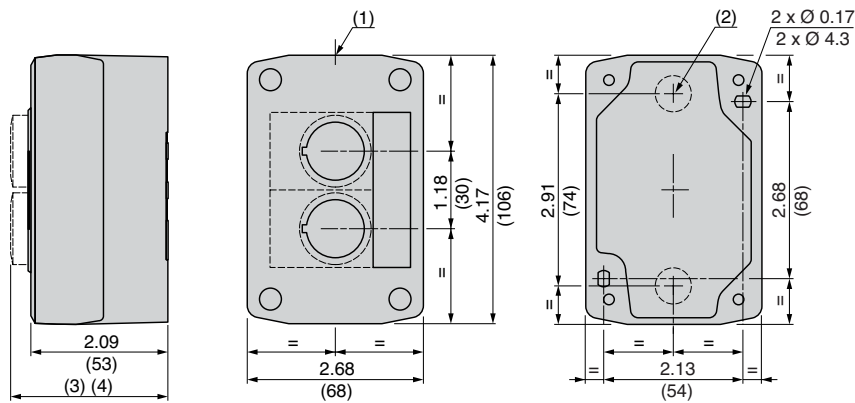
## XAL 22 mm control stations

### Dimensions

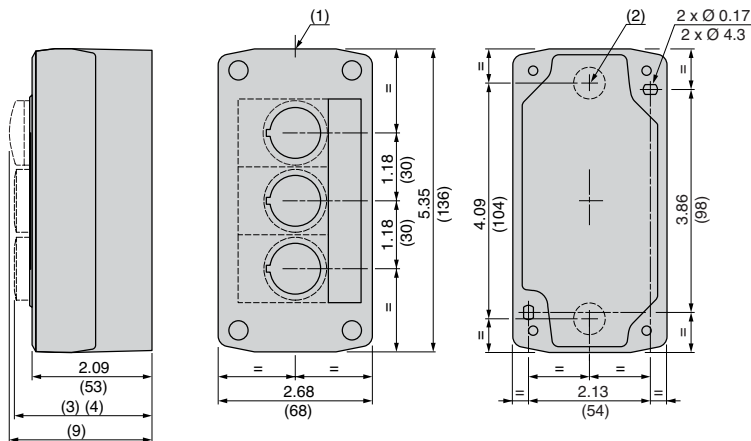
#### Single-way control stations XALD1\*\*, K1\*\*, D01



#### Two-way control stations XALD2\*\*, K2\*\*, D02



#### Three-way control stations XALD3\*\*, K3\*\*, D03



- (1) 2 knock-outs for PG 13.5 cable glands, maximum capacity 0.47 in (12 mm).
- (2) Knock-out for cable entry, maximum capacity 0.55 in (14 mm).

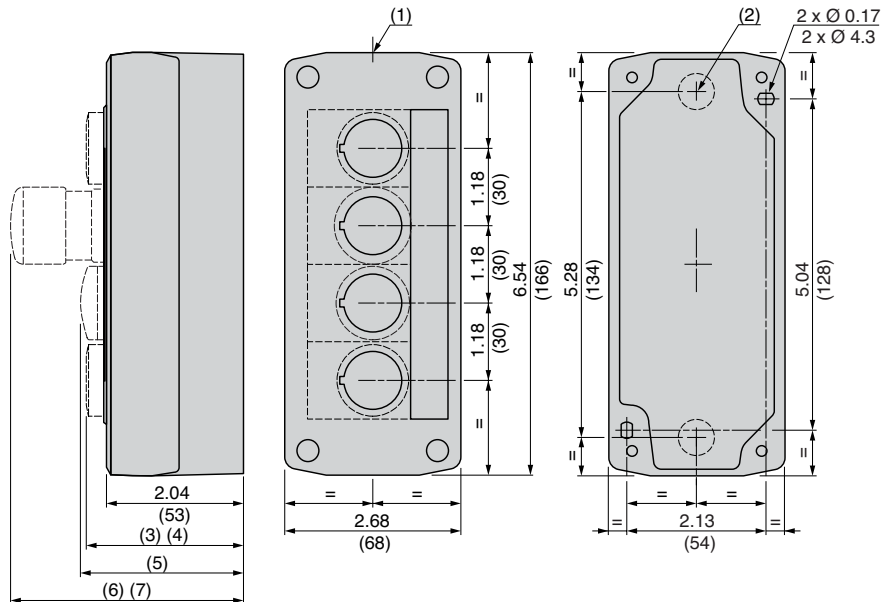
**Examples:**

- (3) 2.44 in (62 mm) for full guard buttons.
- (4) 2.59 in (66 mm) for no guard buttons.
- (5) 3.58 in (91 mm) for latching mushroom head push buttons.
- (6) 2.91 in (74 mm) for key switches.
- (7) 4.45 in (113 mm) for latching mushroom head push buttons with key release.
- (8) 3.78 in (96 mm) for key switches with key.
- (9) 2.52 in (64 mm) for pilot lights.

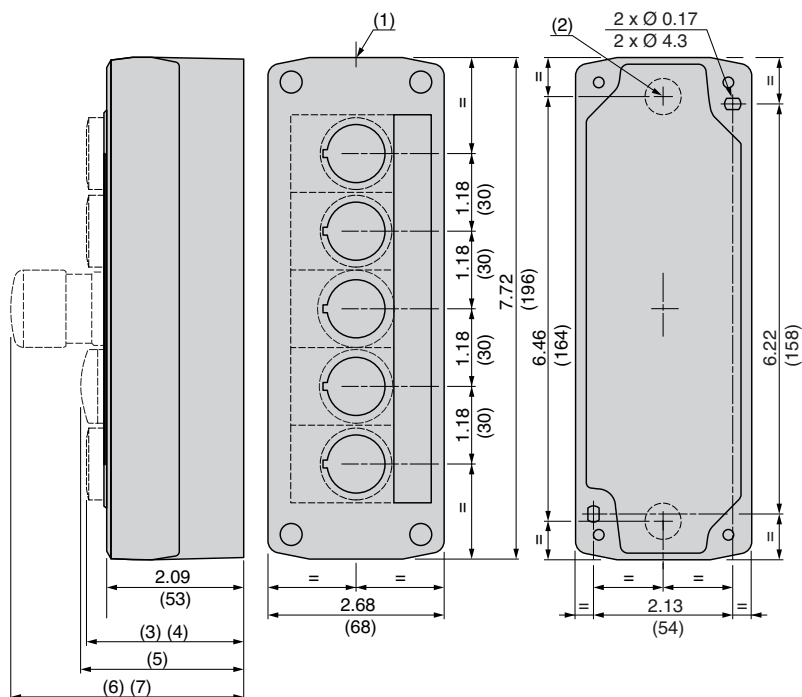
Dual Dimensions: in (mm)

**Dimensions (continued)**

**Four-way control stations XALD4••, K4••, D04**



**Five-way control stations XALD5••, K5••, D05**



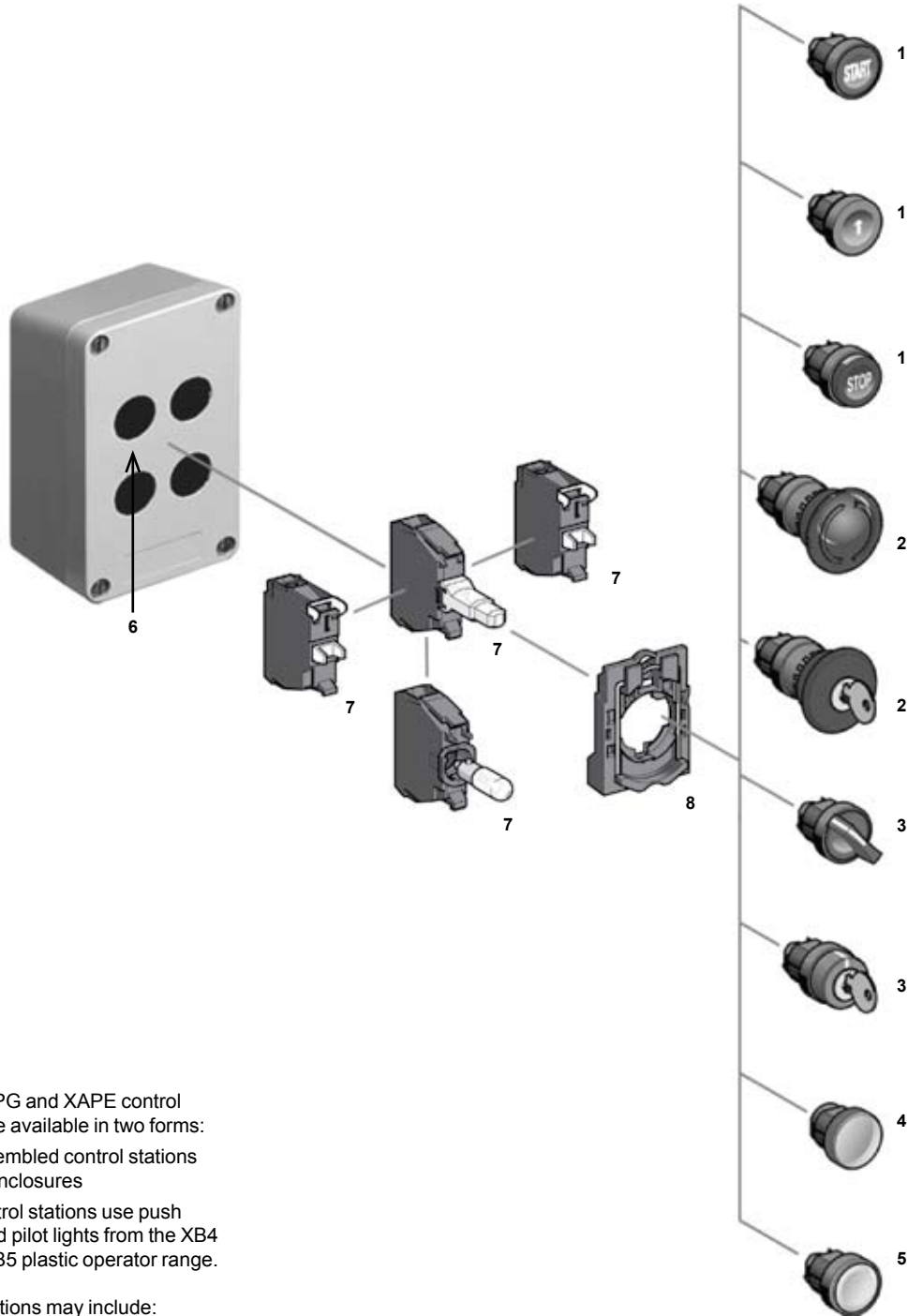
- (1) 2 knock-outs for PG 13.5 cable glands, maximum capacity 0.47 in (12 mm).
- (2) Knock-out for cable entry, maximum capacity 0.55 in (14 mm).

**Examples:**

- (3) 2.44 in (62 mm) for full guard buttons.
- (4) 2.59 in (66 mm) for no guard buttons.
- (5) 2.52 in (64 mm) for pilot lights.
- (6) 3.43 in (87 mm) for mushroom head push buttons.
- (7) 3.07 in (78 mm) for selector switches.

Dual Dimensions: in (mm)

Components



XAPA, XAPG and XAPE control stations are available in two forms:

- Pre-assembled control stations
- Empty enclosures

These control stations use push buttons and pilot lights from the XB4 metal or XB5 plastic operator range.

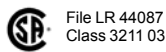
Control stations may include:

- 1 - Non-illuminated operators.
- 2 - Mushroom operators.
- 3 - Selector switches.
- 4 - Pilot lights.
- 5 - Illuminated operators.
- 6 - Enclosure.
- 7 - Contact blocks and light modules.
- 8 - Mounting collar.

# Harmony™ control stations and enclosures

## XAP 22 mm enclosures

XAPA Glass-reinforced polyester insulated enclosures	
Material	Glass-reinforced polyester.
Approvals	Special version: CSA Type 4 and 5 (undrilled version)
Protective treatment	Standard version: "TC" and "TH" treatments.
Ambient temperature	Operation: -25 °C to +70 °C (-13 °F to +158 °F). Storage: -40 °C to +70 °C (-40 °F to +158 °F).
Degree of protection	IP 65 conforming to IEC 60529 and IP 657 conforming to NF C 20-010. Type 4, 4X, 12.
Electric shock protection	Class II conforming to IEC 60536 and NF C 20-030.
Flame resistance	CSTB: M3, NF C 20-455: 850 °C, IEC 60092: 960 °C, UL 94: VO.
Chemical resistance	High degree of resistance to acids, bases, sea water, mineral salts, all solvents, gasoline, diesel, oils and greases.
Cable entry	Undrilled
XAPG Die Cast metal enclosures	
Material	Zinc alloy (XAPG1-XAP4) Aluminum (XAPG5)
Approvals	Special version: CSA Type 4 and 5 (undrilled version); UL Type 1, 2, 4, and 12; Standard CSA Type 1, 4, 4X, and 12.
Protective treatment	Standard version: "TC" treatment. Special version: "TH" treatment.
Ambient temperature	Operation: -25 °C to +70 °C (-13 °F to +158 °F). Storage: -40 °C to +70 °C (-40 °F to +158 °F).
Degree of protection	IP 65 conforming to IEC 60529 and IP 657 conforming to NF C 20-010. UL Type 4, 12.
Electric shock protection	Class I conforming to IEC 60536 and NF C 20-030.
Chemical resistance	Special treatments on request.
Cable entry	Tapped entries for cable glands, see dimensions on page 19
XAPE Flush mount enclosures	
Material and color	Anodized aluminum front plate. Insulated protective rear cover.
Protective treatment	Standard version: "TC" and "TH" treatments.
Ambient temperature	Operation: -25 °C to +70 °C (-13 °F to +158 °F). Storage: -40 °C to +70 °C (-40 °F to +158 °F).
Degree of protection	IP 65 conforming to IEC 60529 and IP 657 conforming to NF C 20-010. CSA Type 1, 4, 4X, and 12.
Electric shock protection	Class I conforming to IEC 60536 and NF C 20-030.
Chemical resistance	High degree of resistance to organic acids, diluted mineral acids, salts, alcohol, acetone, chloride and fluoride solvents, oils and gasoline.
Cable entry	Fiber pull box



# Harmony™ control stations and enclosures

## XAP 22 mm enclosures

### Glass-reinforced polyester enclosures



XAPA1100



XAPA2100

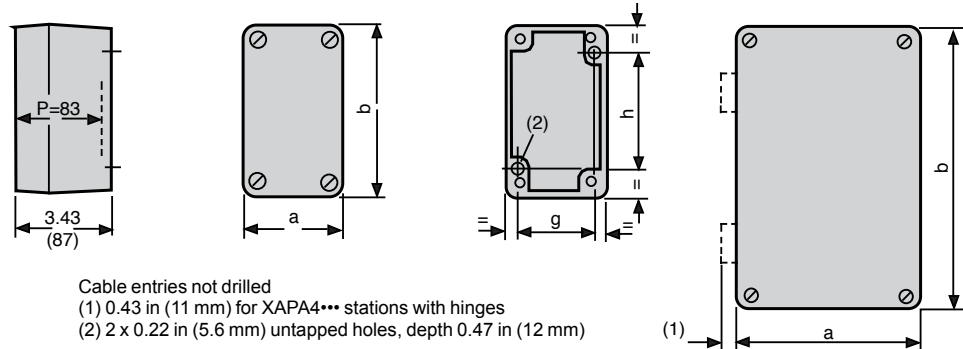
#### Undrilled Enclosures, Glass-Reinforced Polyester

Type		H x W Dimensions: in (mm)	References
NEMA 4, 4X, 13 Usable depth 3.27 in (83 mm)	without hinges	3.34 x 5.75 (85 x 146)	XAPA1100
		3.34 x 8.90 (85 x 226)	XAPA2100
Undrilled Grounding Plate	with hinges	5.95 x 9.49 (151 x 241)	XAPA3100
	Sheet steel with ground screw	5.95 x 9.49 (151 x 241)	XAPA4100
		For XAPA1100	XAPZ100
		For XAPA2100	XAPZ200
		For XAPA3100 and 4100	XAPZ300

#### Undrilled Insulated enclosures XAPA1100, XAP2100

#### Mounting

#### XAPA3100, XAPA4100



XAP	a	b	g	h
A1100	3.35 in (85 mm)	5.75 in (146 mm)	2.76 in (70 mm)	4.13 in (105 mm)
A2100	3.35 in (85 mm)	8.90 in (226 mm)	2.76 in (70 mm)	7.09 in (180 mm)
A3100	5.94 in (151 mm)	9.49 in (241 mm)	5.31 in (135 mm)	7.87 in (200 mm)
A4100	5.94 in (151 mm)	9.49 in (241 mm)	5.31 in (135 mm)	7.87 in (200 mm)



# Harmony™ control stations and enclosures

## XAP 22 mm enclosures

### Glass-reinforced polyester enclosures



XAPA1104

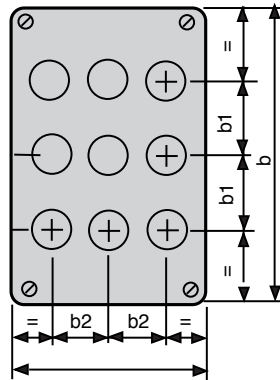
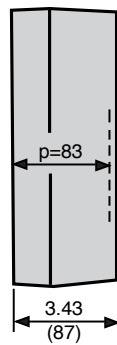


XAPA2108

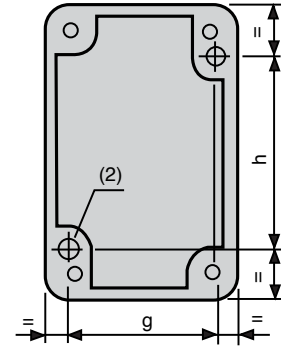
#### Drilled Insulated Enclosures, Glass-Reinforced Polyester

Type	Number of Knock-outs 22 mm	Number of Rows		References
		Vertical	Horizontal	
NEMA 4, 4X, 13	1	1	1	XAPA1110
Usable depth	2	1	2	XAPA1120
3.27 in (83 mm)	4	2	2	XAPA1104
1.58 in (40 mm) centerline spacing of holes	8	2	4	XAPA2108
	16	4	4	XAPA3116
Drilled Grounding Plate	Sheet steel with ground screw	For XAPA1110		XAPZ110
		For XAPA1120		XAPZ120
		For XAPA1104		XAPZ104
		For XAPA2108		XAPZ208
		For XAPA3116		XAPZ316

#### Insulated enclosures with cut-outs XAPA



#### Mounting



Cable entries not drilled  
(2) 2 x 0.22 in (5.6 mm) untapped holes, depth 0.47 in (12 mm)

#### For 22 mm control and signaling units

XAP	a	b	b1	b2	g	h
A1110	3.35 in (85 mm)	5.75 in (146 mm)	–	–	2.76 in (70 mm)	4.13 in (105 mm)
A1120	3.35 in (85 mm)	5.75 in (146 mm)	1.57 in (40 mm)	–	2.76 in (70 mm)	4.13 in (105 mm)
A1104	3.35 in (85 mm)	5.75 in (146 mm)	1.57 in (40 mm)	1.18 in (30 mm)	2.76 in (70 mm)	4.13 in (105 mm)
A2108	3.35 in (85 mm)	8.90 in (226 mm)	1.57 in (40 mm)	1.18 in (30 mm)	2.76 in (70 mm)	7.09 in (180 mm)
A3116	5.94 in (151 mm)	9.49 in (241 mm)	1.57 in (40 mm)	1.18 in (30 mm)	5.31 in (135 mm)	7.87 in (200 mm)

# Harmony™ control stations and enclosures

## XAP 22 mm enclosures

### Die cast enclosures



XAPG39400

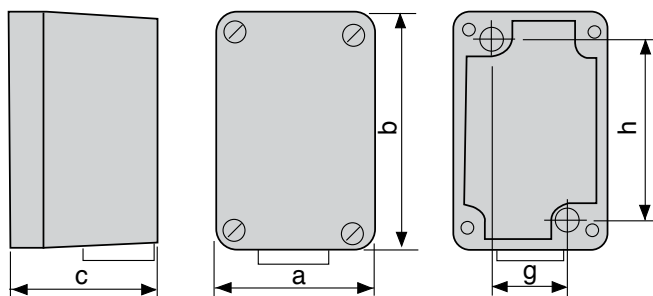


XAPG29703

Undrilled Die Cast Zinc Enclosures (Painted Grey RAL 7032)				
Type	Material	Usable Depth	H x W x D Dimensions	References
NEMA Type 4, 13	Zinc	1.93 in (49 mm)	3.15 x 3.15 x 2.03 in (80 x 80 x 51.5 mm)	XAPG19100
			5.12 x 3.15 x 2.03 in (130 x 80 x 51.5 mm)	XAPG29100
			6.89 x 3.15 x 2.03 in (175 x 80 x 51.5 mm)	XAPG39100
		2.93 (74.5 mm)	3.15 x 3.15 x 3.03 in (80 x 80 x 77 mm)	XAPG19400
			5.12 x 3.15 x 3.03 in (130 x 80 x 77 mm)	XAPG29400
			6.89 x 3.15 x 3.03 in (175 x 80 x 77 mm)	XAPG39400
	Aluminum	2.93 (74.5 mm)	8.66 x 3.15 x 3.03 in (220 x 80 x 77 mm)	XAPG49400
			12.20 x 3.35 x 3.03 in (310 x 85 x 77 mm)	XAPG59400

Drilled Die Cast Zinc Enclosures (Painted Grey RAL 7032)				
Type	Material	Usable Depth	Number of 22 mm knock-outs	References
NEMA Type 4, 13 1.18 in (30 mm) centerline spacing of holes	Zinc	1.93 in (49 mm)	2	XAPG19702
			3	XAPG29703
			4	XAPG39704
		2.93 (74.5 mm)	2	XAPG19802
			3	XAPG29803
			4	XAPG39804
NEMA Type 4, 13 1.58 in (40 mm) centerline spacing of holes	Zinc	1.93 in (49 mm)	1	XAPG19201
			2	XAPG29202
			3	XAPG39203
		2.93 (74.5 mm)	1	XAPG19501
			2	XAPG29502
			3	XAPG39503
Aluminum	2.93 (74.5 mm)	4	XAPG49504	
		5	XAPG59505	

References	a in (mm)	b in (mm)	c in (mm)	g in (mm)	h in (mm)	Conduit opening supplied
XAPG19201	3.15 (80)	3.15 (80)	2.03 (51.5)	1.97 (50)	2.56 (65)	3/4" NPT
XAPG29202	3.15 (80)	5.12 (130)	2.03 (51.5)	1.97 (50)	4.53 (115)	3/4" NPT
XAPG39203	3.15 (80)	6.90 (175)	2.03 (51.5)	1.97 (50)	6.30 (160)	3/4" NPT
XAPG19501	3.15 (80)	3.15 (80)	3.03 (77)	1.97 (50)	2.56 (65)	3/4" NPT
XAPG29502	3.15 (80)	5.12 (130)	3.03 (77)	1.97 (50)	4.53 (115)	3/4" NPT
XAPG39503	3.15 (80)	6.90 (175)	3.03 (77)	1.97 (50)	6.30 (160)	3/4" NPT
XAPG49504	3.15 (80)	8.66 (220)	3.03 (77)	1.97 (50)	8.07 (205)	3/4" NPT
XAPG59505	3.35 (85)	12.20 (310)	3.03 (77)	2.16 (55)	11.60 (295)	3/4" NPT
XAPG19702	3.15 (80)	3.15 (80)	2.03 (51.5)	1.97 (50)	2.56 (65)	3/4" NPT
XAPG29703	3.15 (80)	5.12 (130)	2.03 (51.5)	1.97 (50)	4.53 (115)	3/4" NPT
XAPG39704	3.15 (80)	6.90 (175)	2.03 (51.5)	1.97 (50)	6.30 (160)	3/4" NPT
XAPG19802	3.15 (80)	3.15 (80)	3.03 (77)	1.97 (50)	2.56 (65)	3/4" NPT
XAPG29803	3.15 (80)	5.12 (130)	3.03 (77)	1.97 (50)	4.53 (115)	3/4" NPT
XAPG39804	3.15 (80)	6.90 (175)	3.03 (77)	1.97 (50)	6.30 (160)	3/4" NPT



# Harmony™ control stations and enclosures

## XAP 22 mm enclosures

### Flush plates



XAPE301



XAPE302



XAPE303



XAPE305

### Drilled Anodized Aluminum Flush Plates (for use with XB4 metal push buttons, pilot lights, selector switches, mushroom head operators, legend plates and accessories)

Type	Material	Number of 22mm holes	H x W Dimensions: in (mm)	References
NEMA Type 4, 13 1.18 in (30) centerline spacing of holes	Anodized Aluminum	1	2.83 x 2.83 (72 x 72)	<b>XAPE301</b>
		2	4.13 x 2.83 (105 x 72)	<b>XAPE302</b>
		3	5.43 x 2.83 (138 x 72)	<b>XAPE303</b>
		4	6.73 x 2.83 (171 x 72)	<b>XAPE304</b>
		5	8.03 x 2.83 (204 x 72)	<b>XAPE305</b>

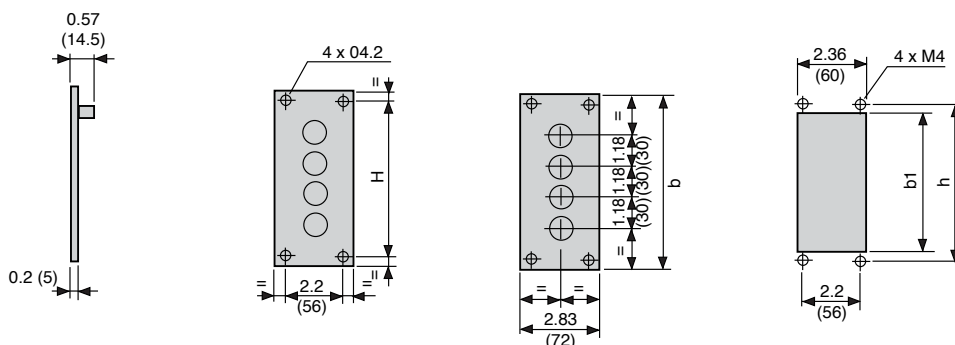
### Optional Fiberglass Back Box (for finger protection, if required)

Type	Material	References	
Protective rear covers	Insulating Fiberglass	For flush plate XAPE301	<b>XAPE901</b>
		For flush plate XAPE302	<b>XAPE902</b>
		For flush plate XAPE303	<b>XAPE903</b>
		For flush plate XAPE304	<b>XAPE904</b>
		For flush plate XAPE305	<b>XAPE905</b>

### Flush mounting enclosures

#### Front plate with cut-outs for 22 mm XB4 and XB5 operators

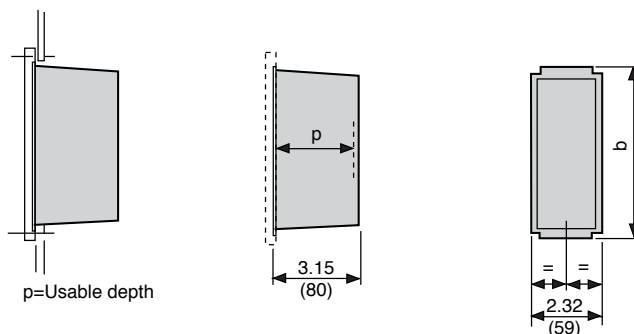
##### XAPE30●



#### Front plate with cut-outs for 22 mm XB4 and XB5 operators

XAP	b in (mm)	b1 in (mm)	h in (mm)
<b>E301</b>	2.83 (72)	1.73 (44)	2.20 (56)
<b>E302</b>	4.13 (105)	3.03 (77)	3.50 (89)
<b>E303</b>	5.43 (138)	4.33 (110)	4.80 (122)
<b>E304</b>	6.73 (171)	5.63 (143)	6.10 (155)
<b>E305</b>	8.03 (204)	6.93 (176)	7.40 (188)

#### Mounting of front plate and protective rear cover



#### Protective rear cover for front plate XAPE30●

XAP	b in (mm)	p in (mm)
<b>E901</b>	2.05 (52)	3.25 (82.5)
<b>E902</b>	3.35 (85)	3.25 (82.5)
<b>E903</b>	4.65 (118)	3.25 (82.5)
<b>E904</b>	5.94 (151)	3.25 (82.5)
<b>E905</b>	7.24 (184)	3.25 (82.5)

# Harmony™ control stations and enclosures

## 9001B standard duty control stations

Note: When ordering, add prefix "9001" to the reference.



NEMA 1  
Surface Mounting  
9001BG201



NEMA 1  
Flush Mounting  
(w/o pullbox)  
9001BF201



NEMA 4  
9001BW243



NEMA 7 and 9  
9001BR103

Control Stations						
No. of Buttons	Nameplate Markings and Features	Contact Symbol (1)	Surface Mounting NEMA 1	Stainless Steel Flush Plate (2)	Watertight and Dusttight NEMA 4	For Hazardous Locations NEMA 7 & 9 (3)
			References	References	References	References
1	Start	1	BG101	BF101	BW146	BR101
	Stop	3	BG102	BF102	BW147	—
	Stop (Mushroom Button)	3	BG103	—	BW151	BR103
	Stop (Lockout)	3	BG104	—	BW148	BR104
	Universal (w/o legend insert)	16	BG107	BF107	BW159	BR107
	Off-On (Selector Switch)	19	BG111	—	—	—
	Hand-Off-Auto (Selector Switch)	17	BG112	—	—	—
	Universal Selector Switch (w/o legend insert)	19 or 17	BG114	—	—	—
2	Start-Stop	145	BG201	BF201	BW240	BR204
	Start-Stop (for latching Applications)	146	BG202	—	BW252	BR202
	Start-Stop (Mushroom on Stop)	145	BG203	—	BW250	BR203
	Start-Stop (Lockout on Stop)	145	BG204	—	BW241	BR204
	Start-Stop (Mushroom on both)	145	BG205	—	BW246	BR205
	Forward-Reverse	146	BG206	—	BW242	—
	Open-Close	146	BG207	—	BW244	—
	Up-Down	146	BG208	BF208	BW243	BR208
	Raise-Lower	146	BG209	—	BW253	—
	On-Off	145	BG210	BF210	BW245	—
	On-Off	146	BG211	BF211	BW254	—
	Universal (w/o legend inserts)	25	BG214	—	BW260	BR214
	Start-Stop (Maintained Contact)	10	BG215	BF215	BW255	BR215
On -Off (Maintained Contact)	10	BG216	BF216	BW256	BR216	
Universal (Maintained contact w/o legend inserts)	10	BG218	—	—	BR218	
3	Fast-Slow-Stop	109	BG301	—	—	—
	Forward-Reverse-Stop	109	BG302	—	—	—
	Open-Close-Stop	109	BG303	BF303	—	—
	Raise-Lower-Stop	109	BG304	—	—	—
	Up-Down-Stop	109	BG305	BF305	—	—
	Start-Jog-Stop	109	BG316	—	—	—
	Universal (w/o legend inserts)	8	BG307	—	—	—
	Start-Stop, Red Pilot Light: 120Vac/dc	145 & 121	BG308	BF308	—	—

(1) See Contact Symbols on page 21.

(2) Uses standard 2.0 or 2.13 in. deep wall boxes, single gang for Types BF1 and BF2, two gang for Type BF3

(3) Also rated for Class I, Division I and II, Groups B, C, or D; Class II, Division I and II, Groups E, F, or G

### Accessories

Description (for use with 9001BG●●● control stations)	Color	References
Mushroom Caps for NEMA 1	Red	B301
Mushroom Caps for NEMA 4	Red	B303
Lockout Kit for NEMA 1	—	B321
Pilot Light Lenses, NEMA 1 Surface Mount	Red	B331
Pilot Light Lenses, NEMA 1 Surface Mount	Green	B332
Pilot Light Lenses, NEMA 1 Flush Mount	Red	B341
Pilot Light Lenses, NEMA 1 Flush Mount	Green	B342

### Replacement Covers

Description	References
Replacement Covers for BW240	BWD219
Replacement Covers for BW241 (4)	BWD220
Replacement Covers for BW242-BW260	BWD219
Replacement Covers for Type BR devices	N/A

(4) Includes factory installed lockout on the cover.

For Replacement Interiors, see page 21.

For Electrical Contact Ratings, see page 21.

### Interchangeable Push Button Legend Inserts

Marking	For 9001BG●●●	For 9001BR●●●	For 9001BW●●● (Round Button)	For 9001BW●●● (Mushroom Button)
Start	B101	B161	B259	B282
Stop	B102	B162	B260	B283
Fast	B103	—	—	—
Slow	B104	—	—	—
Forward	B105	—	B255	—
Reverse	B106	—	B256	—
Open	B107	—	B263	—
Close	B108	—	B264	—
Raise	B109	—	B261	—
Lower	B110	—	B262	—
Up	B111	—	B253	B276
Down	B112	—	B254	B277
On	B115	B175	B257	—
Off	B116	B176	B258	—
Hand	B117	—	B265	—
Auto	B118	—	B266	—
Jog	B119	—	—	—
Blank (Black)	B129	B189	B251	B251
Blank (Red)	B129R	B189R	B252	B252

### "C" Shaped Mounting Bracket for 9001BR●●● Interior

#### Reference

3110112001 (Do not add prefix "9001" to this reference.)

# Harmony™ control stations and enclosures

## 9001B standard duty control stations

Note: When ordering, add prefix "9001" to the reference.



9001BGC214  
(Type BGC contact block assemblies include cover.)



9001BGB214



9001BOC361

### Replacement Interiors For Type B Standard Duty Push Button Stations

For Control Station Types	Contact Symbol (see below)	Contact Block Assembly Type	Terminal Block Wiring Receptacle Type
BF101–BF107	16	BOC107	BFB107
BF111–BF114	19 or 17	BOC114	BFB114
BF121–BF123	121	BOC123	BFB123
BF201–BF214	25	BOC214	BFB214
BF215–BF218	10	BOC218	BFB214
BF221–BF224	7 or 19 & 121	BOC224	BFB224
BF225–BF226	17 or 19 & 16	BOC226	BFB226
BF301–BF307	8	BOC214 BOC107	BFB214 BFB107
BF308–BF309	25 & 121	BOC214 BOC123	BFB214 BFB123
BF310–BF313	10 & 121	BOC218 BOC123	BFB214 BFB123
BF314–BF315	17 or 19 & 25	BOC214 BOC114	BFB214 BFB114
BG101–BG107	16	BGC107	BGB107
BG111–BG114	17 or 19	BGC114	BGB114
BG121–BG123	121	BGC123	BGB123
BG201–BG214	25	BGC214	BGB214
BG215–BG218	10	BGC218	BGB214
BG221–BG224	17 or 19 & 121	BGC224	BGB224
BG225–BG226	17 or 19 & 16	BGC226	BGB226
BG301–BG307	8	BGC307	BGB307
BG316–BG326			
BG308–BG309	25 & 121	BGC309	BGB309
BG310–BG313	10 & 121	BGC313	BGB309
BG314–BG315	17 or 19 & 25	BGC315	BGB315
BR101–BR107	16	BOC107	BFB107
BR202–BR214	25	BOC214	BFB214
BR215–BR219	10	BOC218	BFB214
BW101–BW107	16	BOC107	BFB107
BW202–BW214	25	BOC214	BFB214
BW215–BW218	10	BOC218	BFB214
BW146–BW159	16	BOC360	
BW240–BW260	25	BOC361	
BW255–BW258	10	BOC362	

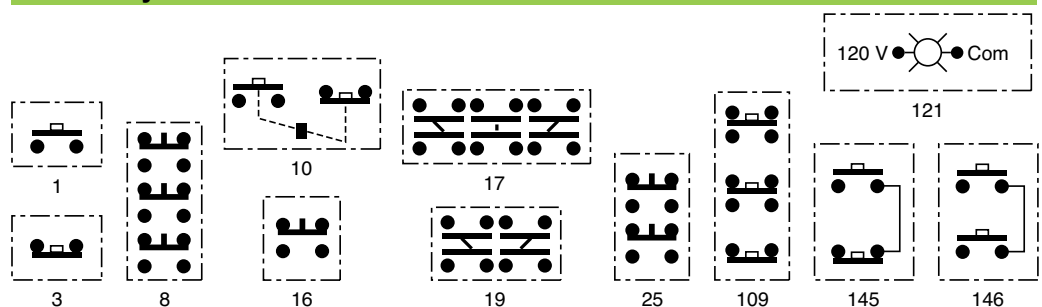
Notes: Contact block assemblies for all Type BG stations include cover and contact block. Replacement contact block assemblies and terminal block wiring receptacles for push buttons have provision for 1 N.O. & 1 N.C. circuit on each button. Unneeded circuits need not be wired. Order separate legend plates, if required, from listing on page 20.

### Electrical Contact Ratings

(OSHA Regulation, Section 1910.70, Overhead and Gantry Cranes, limits the voltage of pendant push buttons to 150 Vac or 300 Vdc.)

Volts	AC—NEMA B600						Volts	DC—NEMA P600	
	Inductive 35% Power Factor				Continuous Carrying Amperes	Resistive 75% Power Factor Make, Break and Continuous Carrying Amperes		Inductive and Resistive	
	Make		Break					Make and Break Amperes	Continuous Carrying Amperes
A	VA	A	VA						
120	30.5	3600	3.75	360	5	5	120	1.1	5
240	15	3600	1.5	360	5	5	240	0.55	5
480	7.5	3600	.75	360	5	5	600	0.2	5
600	6	3600	.6	360	5	5			

### Contact Symbols

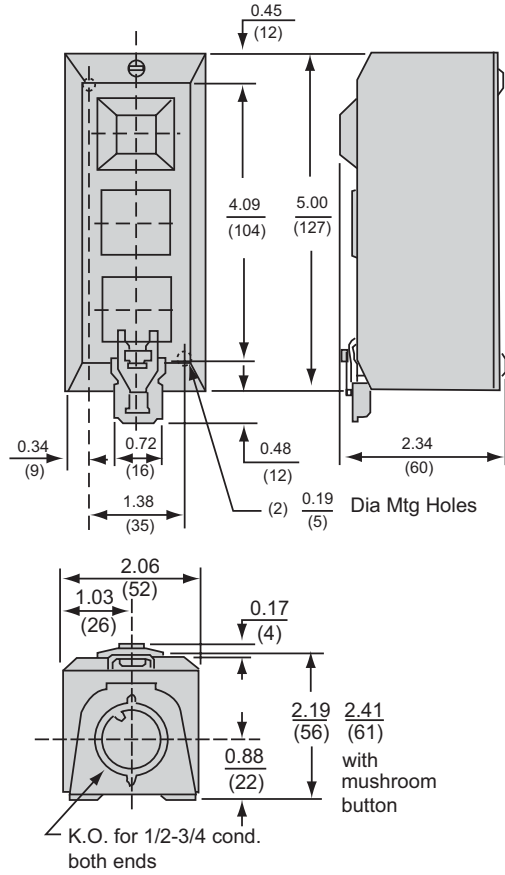
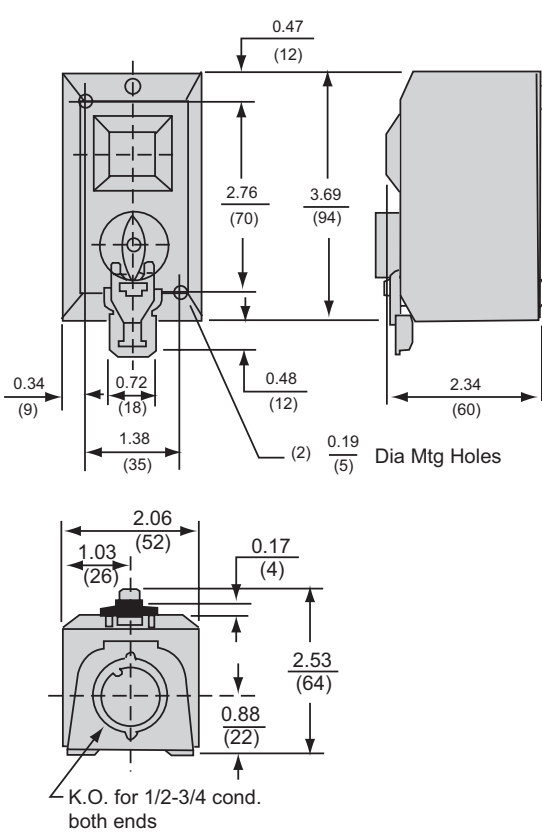


# Harmony™ control stations and enclosures

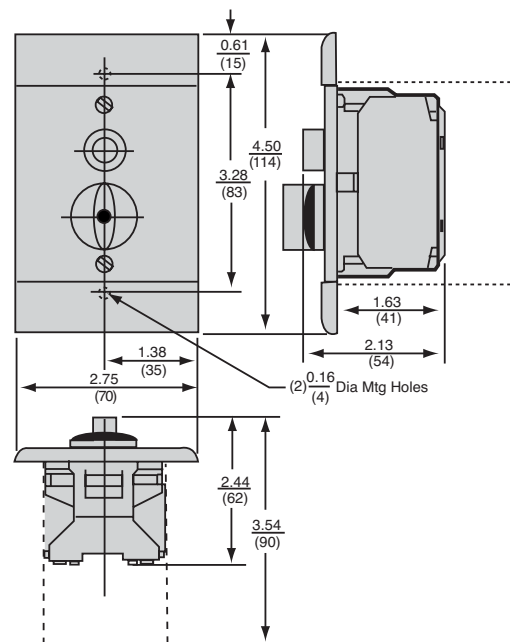
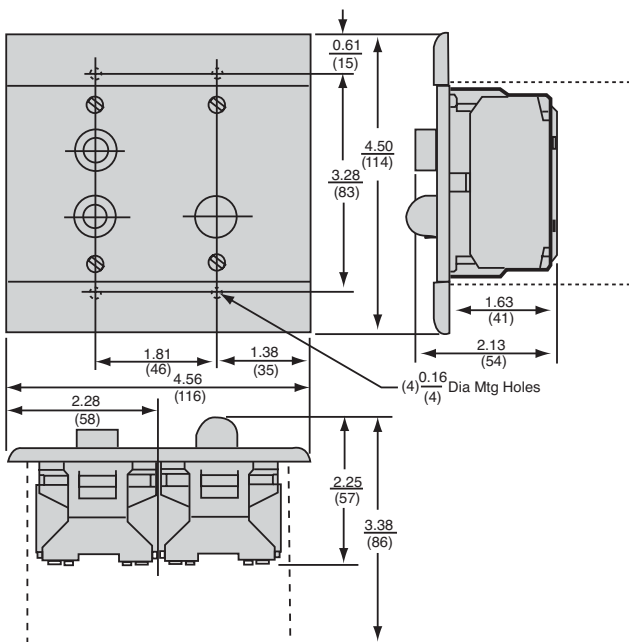
9001B standard duty control stations

## Dimensions

### Surface Mount Type BG, Glass Filled Polyester Cover



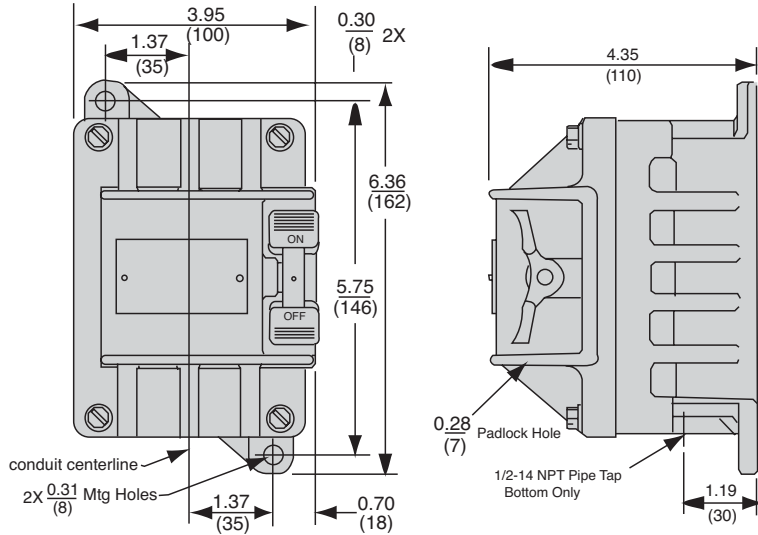
### Flush Mount Type BF, Stainless Steel



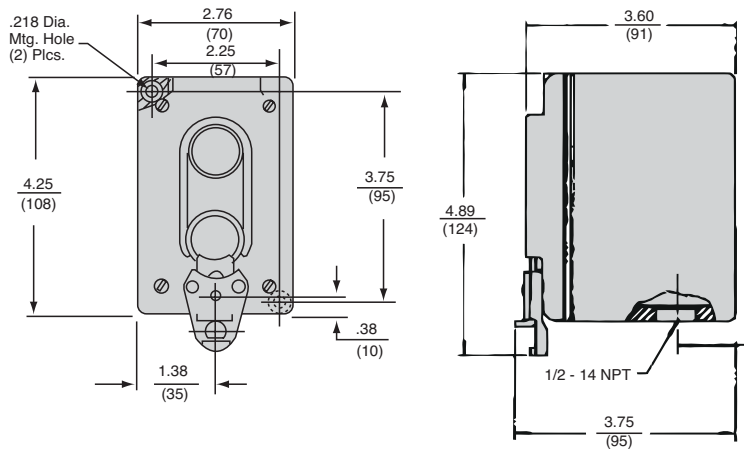
Dual Dimensions: in (mm)

### Dimensions

#### Hazardous Location Type BR, Cast Aluminum Enclosure



#### Watertight & Dusttight Type BW, Cast Zinc Enclosure

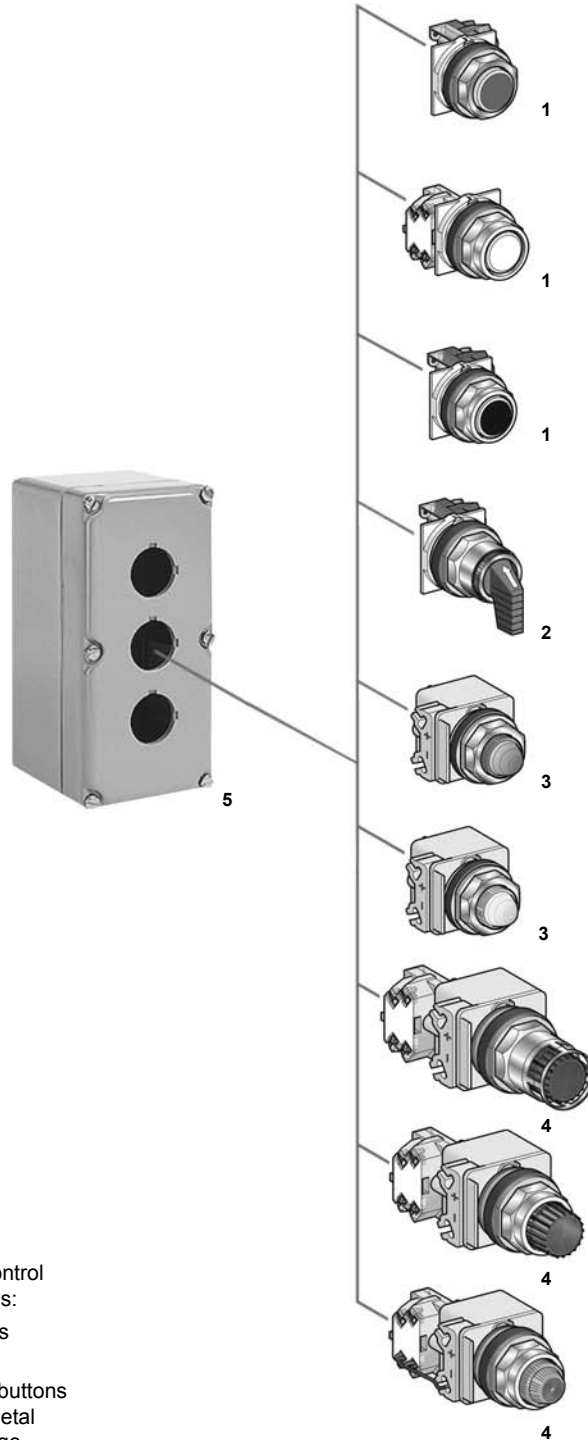


Dual Dimensions: in (mm)

# Harmony™ control stations and enclosures

9001KY/SKY 30 mm control stations

**Components**



9001KY and 9001SKY 30 mm control stations are available in two forms:

- Pre-assembled control stations
- Empty enclosures

These control stations use push buttons and pilot lights from the 9001K metal and 9001SK plastic operator range.

Control stations may include:

- 1 - Non-illuminated operators.
- 2 - Selector switches.
- 3 - Pilot lights.
- 4 - Illuminated operators.
- 5 - Enclosure.



# Harmony™ control stations and enclosures

## 9001KY/SKY 30 mm empty enclosures

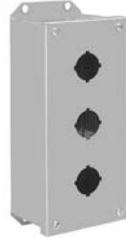
Note: When ordering, add prefix "9001" to the reference.

### Empty Enclosures (for Customer Assembly)

UL Types 1, 3 and 13/  
NEMA 1, 3, and 13

UL Types 1, 3, 4 and 13/  
NEMA 1, 3, 4 and 13

UL Types 1, 3, 4, 4X and 13/  
NEMA 1, 3, 4, 4X and 13



No of Holes	Sheet Steel (1)	Die Cast Zinc (1)	Stainless Steel (304) (1)	Polymeric (Plastic) (2)
	Reference	Reference	Reference	Reference
1	KYAF1	KY1	KYSS1	SKY1
2	KYAF2	KY2 (3)	KYSS2	SKY2
3	KYAF3	KY3 (3)	KYSS3	SKY3
4	KYAF4	KY4 (3)	KYSS4	SKY4
6	KYAF6	KY6	KYSS6	SKY6

### Empty Guarded Enclosures (mushroom head operator not included)

UL Types 1, 3, 4 and 13/  
NEMA 1, 3, 4 and 13

No of Holes	Die Cast Zinc (1)			Reference
	Cover Color	Box Color	Conduit Opening	
1	Gray	Gray	3/4 in. - 14 NPT	KYG1
1	Yellow	Gray	3/4 in. - 14 NPT	KYG1Y
1	Gray	Gray	25 mm Metric	TYG1
1	Yellow	Gray	25 mm Metric	TYG1Y



9001KYG1Y



9001K26

### Stainless Steel (302) NEMA 1 Flush Plates (4) (5)

No of Holes	Description	Reference
1	1 Hole flush plate, cover screws, insulating liners	K25
2	2 Hole flush plate, cover screws, insulating liners	K26
3	3 Hole flush plate, cover screws, insulating liners	K27
4	4 Hole flush plate, cover screws, insulating liners	K28

(1) Use 9001K metal push buttons, pilot lights, selector switches, mushroom head operators, legend plates and accessories."

(2) Use 9001SK plastic push buttons, pilot lights, selector switches, mushroom head operators, legend plates and accessories.

(3) Only KN200 series legend plates will fit upright on these enclosures with their long axis vertical.

(4) To be used with a standard 2 x 3 in. general purpose switch box. A 2.5 in. deep switch box should be used if two Type KA contact blocks are mounted side by side. If two Type KA contact blocks are mounted in tandem, a 3.5 in. deep box should be used.

(5) Although 9001K oiltight/watertight operators are used, an assembled control station using these flush plates is not oiltight and watertight. These kits include a stainless steel flush plate, cover screws and a set of liners which must be used to maintain electrical clearances.

# Harmony™ control stations and enclosures

## 9001KY/SKY 30 mm control stations

Note: When ordering, add prefix “9001” to the reference.

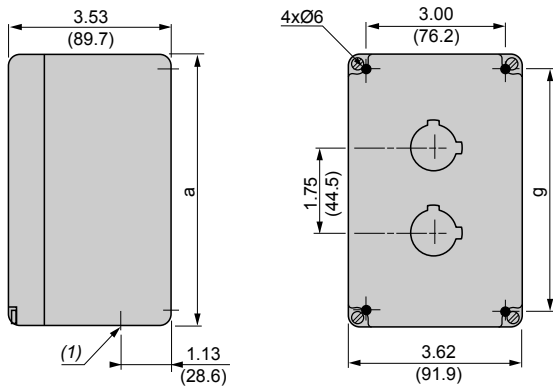
### Assembled Control Stations

No. of Holes	Operator Style and Features	Reference Consists of:				
		Enclosure	Operators	Contact Blocks	Legend Plates	
<b>UL Types 1, 3, 4 and 13/NEMA 1, 3, 4 and 13 Die Cast Zinc Enclosure (1)</b>						
1	Selector Switch (3 Pos Maintained)	KYK111	KY1	KS43B	KA1	Hand-Off-Auto
	Selector Switch (2 Pos Maintained)	KYK110	KY1	KS11B	KA1	Off-On
	Push Button (Momentary)	KYK11	KY1	KR1B	KA1	Start
	Push Button (Momentary)	KYK13	KY1	KR1R	KA1	Stop
	Mushroom Button (Momentary)	KYK14	KY1	KR4R	KA1	Stop
	Push Button (with Lockout)	KYK15	KY1	KR3R, K4	KA1	Stop
	Break Glass Operator	KYK116	KY1	K15	KA1	To Stop—Break Glass
	Break Glass Operator (Red Enclosure)	KYK117	KY1S1	K15	KA1	To Stop—Break Glass
2	2 Push Buttons (Lockout on Stop)	KYK224	KY2	KR1B, KR3R, K4	KA1, KA1	Jog-Stop
	2 Push Buttons	KYK218	KY2	KR1B, KR3R	KA1, KA1	On-Off
	2 Push Buttons	KYK26	KY2	KR1B, KR1B	KA1, KA1	Open-Close
	2 Push Buttons	KYK25	KY2	KR1B, KR1B	KA1, KA1	Up-Down
	2 Push Buttons	KYK21	KY2	KR1B, KR3R	KA1, KA1	Start-Stop
	2 Push Buttons (with Sealed Contacts) (4)	KYK223	KY2	KR1B, KR3R	KA51, KA51	Start-Stop
	2 Push Buttons (Lockout on Stop)	KYK23	KY2	KR1B, KR3R, K4	KA1, KA1	Start-Stop
	2 Push Buttons (Maintained/Interlocked)	KYK27	KY2	KR11GR	KA1	Start-Stop
	1 Push Button, 1 Mushroom Button	KYK22	KY2	KR1B, KR4R	KA1, KA1	Start-Stop
	3	3 Push Buttons	KYK31	KY3	KR1B, KR1B, KR3R	KA1, KA1, KA1
3 Push Buttons (Lockout on Stop)		KYK326	KY3	KR1B, KR1B, KR3R, K4	KA1, KA1, KA1	Forward; Reverse; Stop
3 Push Buttons (With Sealed Contacts & Lockout on Stop) (4)		KYK322	KY3	KR1B, KR1B, KR3R, K4	KA51, KA51, KA51	Forward; Reverse; Stop
3 Push Buttons		KYK33	KY3	KR1B, KR1B, KR3R	KA1, KA1, KA1	Open; Close; Stop
Red 120V Pilot Light, 2 Push Buttons		KYK317	KY3	KP1R31, KR1B, KR3R	KA2, KA3	Start; Stop
3 Push Buttons		KYK32	KY3	KR1B, KR1B, KR3R	KA1, KA1, KA1	Up; Down; Stop
3 Push Buttons (Lockout on Stop)		KYK325	KY3	KR1B, KR1B, KR3R, K4	KA1, KA1, KA1	Up; Down; Stop
<b>UL Types 1, 3, 4 and 13/NEMA 1, 3, 4 and 13—Stainless Steel (304) (2)</b>						
1	Push Button (Momentary)	KYSS101	KYSS1	KR1B	KA1	Start
	Push Button (Momentary)	KYSS103	KYSS1	KR1B	KA3	Stop
	Selector Switch (2 Pos Maintained)	KYSS110	KYSS1	KS11B	KA1	Off-On
	Selector Switch (3 Pos Maintained)	KYSS111	KYSS1	KS43B	KA1	Hand-Off-Auto
	2 Push Buttons	KYSS201	KYSS2	KR1B, KR3R	KA1, KA3	Start; Stop
2	2 Push Buttons (Lockout on Stop)	KYSS203	KYSS2	KR1B, KR3R, K5	KA1, KA3	Start; Stop
	2 Push Buttons (Maintained with Interlock)	KYSS210	KYSS2	KR11U	KA1, KA1	Start; Stop
	2 Push Buttons	KYSS205	KYSS2	KR1B, KR1B	KA1, KA1	Up; Down
	<b>UL Types 1, 3, 4, 4X and 13/NEMA 1, 3, 4, 4X and 13—Stainless Steel (304) (3)</b>					
1	Push Button (Momentary)	KYSK101	KYSS1	SKR1B	KA1	Start
	Push Button (Momentary)	KYSK103	KYSS1	SKR3R	KA3	Stop
	Selector Switch (2 Pos Maintained)	KYSK110	KYSS1	SKS11B	KA1	Off-On
	Selector Switch (3 Pos Maintained)	KYSK111	KYSS1	SKS43B	KA1	Hand-Off-Auto
	2 Push Buttons	KYSK201	KYSS2	SKR1B, SKR3R	KA1, KA3	Start; Stop
2	2 Push Buttons (Lockout on Stop)	KYSK203	KYSS2	SKR1B, SKR3R, K5	KA1, KA3	Start; Stop
	2 Push Buttons (Maintained with Interlock)	KYSK210	KYSS2	SKR11U	KA1, KA1	Start; Stop
	2 Push Buttons	KYSK205	KYSS2	SKR1B, SKR1B	KA1, KA1	Up; Down
	<b>UL Types 1, 3, 4, 4X and 13/NEMA 1, 3, 4, 4X and 13—Polymeric (Plastic) (3)</b>					
1	Selector Switch (3 Pos Maintained)	SKY111	SKY1	SKS43B	KA1	Hand-Off-Auto
	Selector Switch (2 Pos Maintained)	SKY110	SKY1	SKS11B	KA1	Off-On
	Selector Switch (2 Pos Maintained with Sealed Contacts) (4)	SKY122	SKY1	SKS11B	KA51	Off-On
	Push Button (with Lockout)	SKY105	SKY1	SKR3R, K5	KA3	Stop
	2 Push Buttons	SKY201	SKY2	SKR1B, SKR3R	KA1, KA3	Start-Stop
2	2 Push Buttons (Lockout on Stop)	SKY203	SKY2	SKR1B, SKR1R, K5	KA1, KA3	Start-Stop
	2 Push Buttons (With Sealed Contacts) (4)	SKY223	SKY2	SKR1B, SKR3R	KA51, KA51	Start-Stop
	2 Push Buttons (With Sealed Contacts) (4)	SKY222	SKY2	SKR1B, SKR3R	KA51, KA51	On-Off
	2 Push Buttons	SKY205	SKY2	SKR1B, SKR1B	KA1, KA1	Up-Down
	3 Push Buttons	SKY302	SKY3	SKR1B, SKR1B, SKR3R	KA1, KA1, KA3	Up-Down-Stop
	3 Push Buttons	SKY303	SKY3	SKR1B, SKR1B, SKR3R	KA1, KA1, KA3	Open-Close-Stop
3	Red 120V Pilot Light, 2 Push Buttons	SKY315A	SKY3	SKP1R31, SKR1B, SKR3R	KA1, KA3	Start-Stop
	<b>UL Types 1, 3, 4 and 13/NEMA 1, 3, 4 and 13 Die Cast Zinc Enclosures with Integral Guard</b>					
1	Guarded Enclosure (grey) with 120V Red LED Pilot Light	KYG11	KYG1	KP38LRR9	—	order separately
	Guarded Enclosure (grey) with 120V Green LED Pilot Light	KYG12	KYG1	KP38LGG9	—	order separately
	Guarded Enclosure (Yellow Cover) with Red Push-Pull Mushroom	KYG1Y1	KYG1Y	KR9R	KA3	Emergency Stop
	Guarded Enclosure (Yellow Cover) with Red Turn-To Release Mushroom	KYG1Y2	KYG1Y	KR16	KA3	Emergency Stop

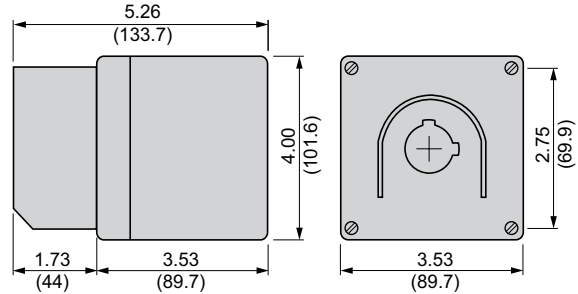
(1) Uses 9001K metal operators and metal legend plates.  
 (2) Uses 9001K metal operators and plastic legend plates.  
 (3) Uses 9001SK plastic operators and plastic legend plates.  
 (4) Control Station components are UL listed for use in Class 1, Division 2, Groups A, B, C, or D.

### Dimensions

#### 9001KY● and 9001TY● enclosures



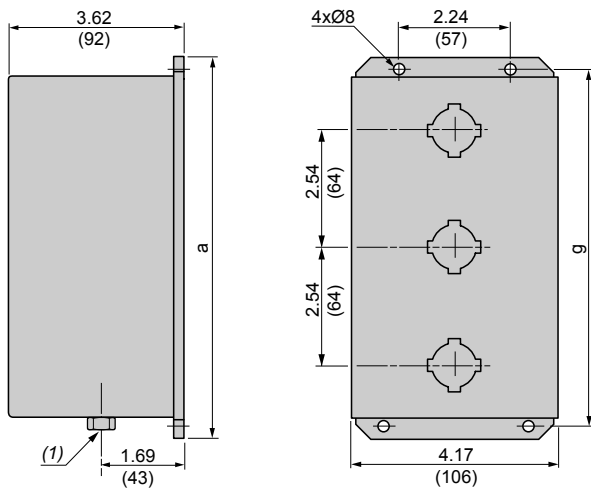
#### 9001KYG1 and 9001TYG1 enclosures



(1) Conduit thread: 9001KY●: 3/4 - 14 NPT 9001TY●: 14 mm.

	a: in (mm)	g: in (mm)
9001KY1, TY1	4.0 (101.6)	2.75 (69.9)
9001KY2, TY2 (as shown)	5.75 (146.1)	4.5 (114.3)
9001KY3, TY3	7.0 (177.8)	6.225 (158.8)
9001KY4, TY4	9.25 (235.0)	8.0 (203.2)

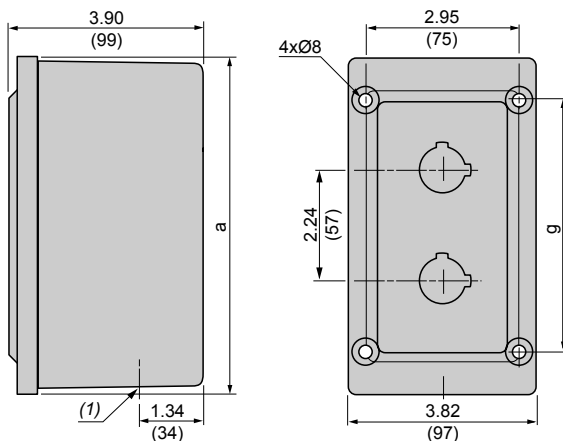
#### 9001KYAF● and 9001KYSS● enclosures



9001KYAF● and 9001KYSS●	a: in (mm)	g: in (mm)
9001KYAF1	4.45 (133)	4.61 (117)
9001KYAF2	7.76 (197)	7.13 (181)
9001KYAF3 (as shown)	10.24 (260)	9.61 (244)
9001KYAF4	12.76 (324)	12.13 (308)
9001KYSS1	4.45 (133)	4.61 (117)
9001KYSS2	7.76 (197)	7.13 (181)
9001KYSS3 (as shown)	10.24 (260)	9.61 (244)
9001KYSS4	12.76 (324)	12.13 (308)

(1) 9001KYSS● includes 3/4 - 14 NPT conduit hub.  
9001KYAF is undrilled and does not include conduit hub.

#### 9001SKY● enclosures



	a: in (mm)	g: in (mm)
9001SKY1	6.65 (169)	4.88 (124)
9001SKY2 (as shown)	6.65 (169)	4.88 (124)
9001SKY3	8.90 (226)	7.13 (181)

(1) Knockout conduit thread: 3/4".

Reference	Page	Reference	Page	Reference	Page	Reference	Page	Reference	Page
3110		BF226	20	BR215	20	KYSK110	25	XAPE305	19
3110112001	20	BG101	20	BR216	20	KYSK111	25	XAPE901	19
<b>B</b>		BG102	20	BR218	20	KYSK201	25	XAPE902	19
B101	20	BG103	20	BW146	20	KYSK203	25	XAPE903	19
B102	20	BG104	20	BW147	20	KYSK205	25	XAPE904	19
B103	20	BG107	20	BW148	20	KYSK210	25	XAPE905	19
B104	20	BG111	20	BW151	20	KYSS1	24	XAPG19100	18
B105	20	BG112	20	BW159	20	KYSS101	25	XAPG19201	18
B106	20	BG114	20	BW240	20	KYSS103	25	XAPG19400	18
B107	20	BG201	20	BW241	20	KYSS110	25	XAPG19501	18
B108	20	BG202	20	BW242	20	KYSS111	25	XAPG19702	18
B109	20	BG203	20	BW243	20	KYSS2	24	XAPG19802	18
B110	20	BG204	20	BW244	20	KYSS201	25	XAPG29100	18
B111	20	BG205	20	BW245	20	KYSS203	25	XAPG29202	18
B112	20	BG206	20	BW246	20	KYSS205	25	XAPG29400	18
B115	20	BG207	20	BW250	20	KYSS210	25	XAPG29502	18
B116	20	BG208	20	BW252	20	KYSS3	24	XAPG29703	18
B117	20	BG209	20	BW253	20	KYSS4	24	XAPG29803	18
B118	20	BG210	20	BW254	20	KYSS6	24	XAPG39100	18
B119	20	BG211	20	BW255	20	<b>SKY</b>		XAPG39203	18
B129	20	BG214	20	BW256	20	SKY1	24	XAPG39400	18
B129R	20	BG215	20	BW260	20	SKY105	25	XAPG39503	18
B161	20	BG216	20	BWD219	20	SKY110	25	XAPG39704	18
B162	20	BG218	20	BWD220	20	SKY111	25	XAPG39804	18
B175	20	BG301	20	<b>K</b>		SKY112	25	XAPG49400	18
B176	20	BG302	20	K25	24	SKY2	24	XAPG49504	18
B189	20	BG303	20	K26	24	SKY201	25	XAPG59400	18
B189R	20	BG304	20	K27	24	SKY203	25	XAPG59505	18
B251	20	BG305	20	K28	24	SKY205	25	XAPZ100	16
B252	20	BG307	20	<b>KY</b>		SKY222	25	XAPZ104	17
B253	20	BG308	20	KY1	24	SKY223	25	XAPZ110	17
B254	20	BG316	20	KY2	24	SKY3	24	XAPZ120	17
B255	20	BGB107	20	KY3	24	SKY302	25	XAPZ200	16
B256	20	BGB114	20	KY4	24	SKY303	25	XAPZ208	17
B257	20	BGB123	20	KY6	24	SKY315A	25	XAPZ300	16
B258	20	BGB214	20	KYAF1	24	SKY4	24	XAPZ316	17
B259	20	BGB224	20	KYAF2	24	SKY6	24	<b>Z</b>	
B260	20	BGB226	20	KYAF3	24	<b>XAL</b>		ZALVB1	11
B261	20	BGB307	20	KYAF4	24	XALD01	11	ZALVB3	11
B262	20	BGB309	20	KYAF6	24	XALD02	11	ZALVB4	11
B263	20	BGB315	20	KYG1	24	XALD03	11	ZALVB5	11
B264	20	BGC107	20	KYG11	25	XALD04	11	ZALVB6	11
B265	20	BGC114	20	KYG12	25	XALD05	11	ZALVG1	11
B266	20	BGC123	20	KYG1Y	24	XALD101	10	ZALVG3	11
B276	20	BGC214	20	KYG1Y1	25	XALD111	10	ZALVG4	11
B277	20	BGC218	20	KYG1Y2	25	XALD164	10	ZALVG5	11
B282	20	BGC224	20	KYK11	25	XALD211	10	ZALVG6	11
B283	20	BGC226	20	KYK110	25	XALD221	10	ZALVM1	11
B301	20	BGC307	20	KYK111	25	XALD311	10	ZALVM3	11
B303	20	BGC309	20	KYK116	25	XALD321	10	ZALVM4	11
B321	20	BGC313	20	KYK117	25	XALD341	10	ZALVM5	11
B331	20	BGC315	20	KYK13	25	XALK01	11	ZALVM6	11
B332	20	BOC107	20	KYK14	25	XALK174	10	ZB5AZ901	11
B341	20	BOC114	20	KYK15	25	XALK178	10	ZB5AZ905	11
B342	20	BOC123	20	KYK21	25	XALK184	10	ZB5SZ3	11
BF101	20	BOC214	20	KYK218	25	XALK188	10	ZENL1111	11
BF102	20	BOC218	20	KYK22	25	XALK194	10	ZENL1121	11
BF107	20	BOC224	20	KYK223	25	XALZ09	11		
BF201	20	BOC226	20	KYK224	25	<b>XAP</b>			
BF208	20	BOC360	20	KYK23	25	XAPA1100	16		
BF210	20	BOC361	20	KYK25	25	XAPA1104	17		
BF211	20	BOC362	20	KYK26	25	XAPA1110	17		
BF215	20	BR101	20	KYK27	25	XAPA1120	17		
BF216	20	BR103	20	KYK31	25	XAPA2100	16		
BF303	20	BR104	20	KYK317	25	XAPA2108	17		
BF305	20	BR107	20	KYK32	25	XAPA3100	16		
BF308	20	BR202	20	KYK322	25	XAPA3116	17		
BFB107	20	BR203	20	KYK325	25	XAPA4100	16		
BFB114	20	BR204	20	KYK326	25	XAPE301	19		
BFB123	20	BR205	20	KYK33	25	XAPE302	19		
BFB214	20	BR208	20	KYSK101	25	XAPE303	19		
BFB224	20	BR214	20	KYSK103	25	XAPE304	19		



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