GCX Series 22mm Plastic Key Switches and Selector Switches

Key-operated selector switches

GCX3420 (2-position maintained)
• Keyed switches come with two keys.

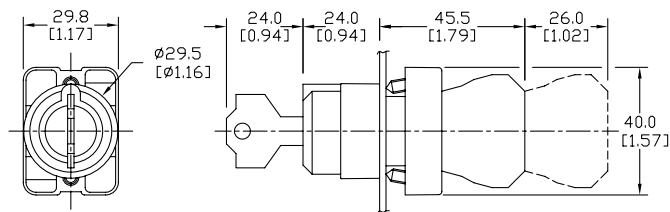| Part Number	Price	Description
GCX3420	$14.00	22mm plastic selector switch, key-operated, **two-position maintained**, key can be removed in all positions. **One N.O.** contact block. Replacement keys available
GCX3430	$14.00	22mm plastic selector switch, key-operated, **two-position spring-return from right. One N.O.** contact block. Replacement keys available
GCX3470-22	$20.50	22mm plastic selector switch, key-operated, **three-position maintained,** key can be removed in all positions. **Two N.O.** and **two N.C.** contact blocks. Replacement keys available

Note: Keyed switches come with two keys. All plastic 22mm keyed switches are keyed the same. Replacement keys are available. Order part no. ECX1067-2 (pkg. of 2). Keys for plastic 22mm keyed switches are not compatible with Cutler-Hammer key switches.

Note: When using switches having two-deep contact blocks (such as, Model GCX3470-22) with the 22mm plastic enclosures, be sure to use enclosures that are 74mm deep. 51 mm-deep enclosures are too shallow and the switch body will not fit.
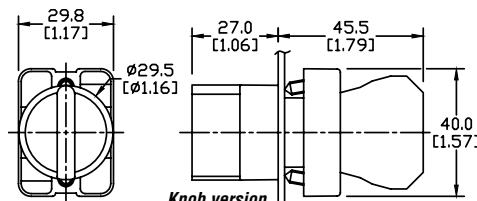
Dimensions: mm [inches]

29.8 [1.17]   Ø29.5 [Ø1.16]   24.0 [0.94]   24.0 [0.94]   45.5 [1.79]   26.0 [1.02]   40.0 [1.57]

Two-position selector switches

GCX3300 Knob version

GCX3350 Lever version

Part Number	Price	Description - 2-Position Switches
GCX3300	$7.50	22mm plastic selector switch, two-position **maintained**, black knob. **One N.O.** contact block
GCX3310	$8.25	22mm plastic selector switch, two-position **spring-return from right**, black knob. **One N.O.** contact block
GCX3350	$8.25	22mm plastic selector switch, two-position **maintained**, black lever. **One N.O.** contact block
GCX3360	$8.75	22mm plastic selector switch, two-position **spring-return from right**, black lever. **One N.O.** contact block

29.8 [1.17]   Ø29.5 [Ø1.16]   27.0 [1.06]   45.5 [1.79]   40.0 [1.57]

Knob version

Dimensions: mm [inches]

29.8 [1.17]   Ø29.5 [Ø1.16]   27.0 [1.06]   45.5 [1.79]   24.0 [0.94]   40.0 [1.57]

Lever version
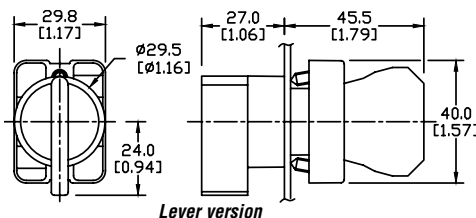
Contact Closure Sequence for Two-Position Switch

Contact Closure Sequence - 2-Position Switch				
Contact Blocks	Contact Arrangement (viewed from front)		Switch Position (viewed from front)	
	Left	Right	Left (Note 1)	Right (Note 2)
1 x NC	NC		X	
		NC	X	
1 x NO	NO			X
		NO		X
2 x NC	NC	NC	XX	
2 x NO	NO	NO		XX

Note 1: Left switch position deactivates all contacts.
Note 2: Right switch position activates all contacts.

For accessories, see 22mm Plastic Pilot Device Accessories in this section.

GCX Series 22mm Plastic Selector Switches

## Three-position selector switches

GCX3330-22 Knob version

GCX3370-22 Lever version

| Part Number	Price	Description - 3-Position Switches
GCX3320-22	$14.50	22mm plastic selector switch, three-position **maintained**, black knob, **Two N.O.** and **two N.C.** contact blocks
GCX3330-22	$15.00	22mm plastic selector switch, three-position **spring-return to center**, black knob, **Two N.O.** and **two N.C.** contact blocks
GCX3370-22	$15.00	22mm plastic selector switch, three-position, **maintained**. black lever, **Two N.O.** and **two N.C.** contact blocks
GCX3380-22	$15.50	2mm plastic selector switch, three-position **spring-return to center**, black lever, **Two N.O.** and **two N.C.** contact blocks

Note: When using switches having two-deep contact blocks with the 22mm plastic enclosures, be sure to use enclosures that are 74 mm deep; 51 mm-deep enclosures are too shallow and the switch body will not fit.

Dimensions: mm [inches]
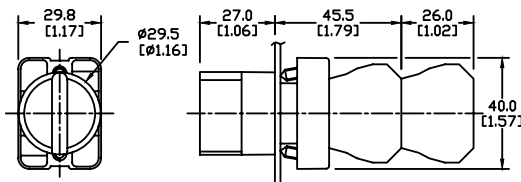
Knob version
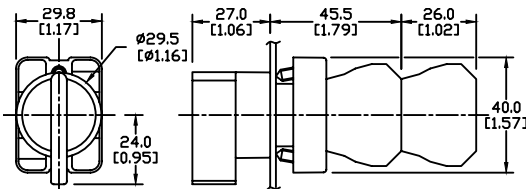
Lever version

Contact Closure Sequence for Three-Position Switch

Contact Blocks	Contact Arrangement (viewed from front)		Switch Position (viewed from front)		
	Left	Right	Left (Note 1)	Center (Note 2)	Right (Note 3)
1 x NC	NC			X ——— X	
		NC	X ——— X		
1 x NO	NO		X		
		NO			X
2 x NC	NC	NC	X———XX——— X		
2 x NO	NO	NO	X		X

Note 1: Left switch position activates left side contacts (viewed from front).
Note 2: Center switch position deactivates all contacts.
Note 2: Right switch position activates right side contacts (viewed from front).

For accessories, see 22mm Plastic Pilot Device Accessories in this section.

22mm Plastic Pilot Device Accessories

Replacement incandescent bulbs

ECX1902-5

Replacement Incandescent Bulbs				
Part Number	Quantity	Price	Rating	Description
ECX1900-5	Pkg of 5 bulbs	$8.75	6V@ 200mA, 1.2 watts	6V replacement bulb for 22mm switches and indicators. Miniature bayonet base T31/4
ECX1902-5	Pkg of 5 bulbs	$8.75	24V@ 80mA 2 watts	24V replacement bulb for 22mm switches and indicators. Miniature bayonet base T31/4
ECX1904-5	Pkg of 5 bulbs	$18.00	130V@20mA 2.6 watts	120V replacement bulb for 22mm switches and indicators. Miniature bayonet base T31/4

Note: Bulb removal tool available. Order part number HT8LAMPTOOL.

Replacement LED lamps

ECX1915-2

Replacement LED Lamps					
Part Number	Color	Quantity	Price	Rating	Description
ECX1911-2	Red		$16.00	24V@26mA 0.6 watts	LED replacement lamp for miniature bayonet bases. Works with 22mm switches and indicators, but illumination will not be as even when used with the ECX 22mm indicators. Note: **Will not replace** sealed Cutler-Hammer monoblock LED indicators.
ECX1912-2	Green		$20.00		
ECX1913-2	Yellow	Pkg of 2 LED lamps	$16.00		
ECX1914-2	Blue		$21.50		
ECX1915-2	White		$25.50		
ECX1921-2	Red		$16.00	120V@5mA 0.6 watts	
ECX1922-2	Green		$20.00		
ECX1923-2	Yellow		$16.00		
ECX1924-2	Blue		$21.50		
ECX1925-2	White		$25.50		

Note: LED modules have very low current draw and should not be used with triac output devices like PLC triac output modules. It is recommended that dry contact outputs be used to switch 120 volt AC LED modules.

Hole plug

ECX1490

Hole Plug			
Part Number	Color	Price	Description
ECX1490	Black	$2.75	Plastic hole plug for 22.5 mm openings in panels and enclosures; supplied with O-ring and mounting screw. Two plugs per package.

Protective covers for pushbuttons

ECX1703-5

Protective Covers for Pushbuttons				
Part Number	Color	Quantity	Price	Description
ECX1700-5	Black		$6.75	Silicone protective covers for use with 22mm standard-size flush pushbuttons. **Will not work** with Cutler-Hammer pushbuttons, 22mm plastic illuminated or extended pushbuttons, or 22mm plastic pushbuttons with 40mm actuator face.
ECX1701-5	Red		$6.75	
ECX1702-5	Green	Pkg of 5 protective caps	$6.75	
ECX1703-5	Yellow		$6.75	
ECX1704-5	Blue		$6.75	
ECX1705-5	Clear		$6.75	
ECX1706-5	Clear		$12.00	Clear silicone protective covers for use with 22mm illuminated and **extended pushbuttons only. Will not work** with Cutler-Hammer pushbuttons or 22mm mushroom pushbuttons.

Knockout Punches

109225

Ruko's knockout punch hole-cutting tool includes punch, die and draw bolt (without ball bearing). Use for sheet steel, stainless-steel sheets, non-ferrous and light metals, and plastics up to 0.16" (8 ga.) thick. Replacement bolts are offered in three of the most popular sizes. See the Tools section of the catalog for details.

Note: Part number 109225 is recommended when punching holes for 22mm pilot devices.
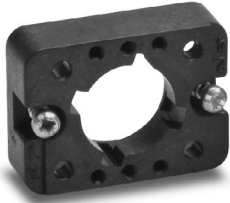
Replacement keys

ECX1067-2

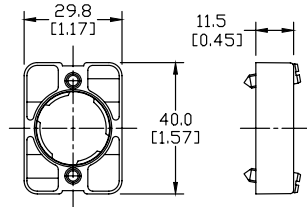| Replacement Keys			
Part Number	Quantity	Price	Description
ECX1067-2	Pkg of 2	$6.00	Replacement key for GCX series key-actuated selector switches, pack of 2 sets (2 keys each). NOTE: Will not work with Cutler-Hammer 22mm switches.

Note: All key-actuated 22mm plastic selector switches are keyed alike.

# 22mm Plastic Pilot Device Accessories

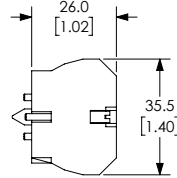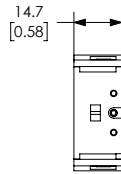## Replacement 22mm support base

ECX3029-2

Replacement 22mm Support Base			
Part Number	Quantity	Price	Description
ECX3029-2	Pkg of 1	$1.75	22mm plastic support base Note: This item is supplied as a replacement part and is not required with any switch assembly. **Will not work** with Cutler-Hammer 22mm switches sold by AUTOMATIONDIRECT
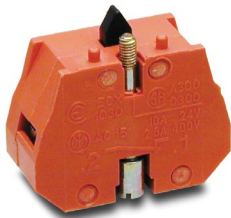
29.8 [1.17]   11.5 [0.45]   40.0 [1.57]   Dimensions: mm [inches]

Replacement contact blocks

ECX1030-2

Replacement Contact Blocks				
Part Number	Quantity	Price	Contacts	Description
ECX1030-2	Pkg of 2	$6.50	Red, normally-closed (N.C.)	Replacement contact block for 22mm pushbuttons and selector switches. Tightening Torque, terminal screw: 0.8 N·m max mounting screw: 0.5 N·m max Note: **Will not work** with Cutler-Hammer 22mm switches sold by AUTOMATIONDIRECT
ECX1030-5	Pkg of 5	$15.50		
ECX1040-2	Pkg of 2	$6.50	Green, normally-open (N.O.)	
ECX1040-5	Pkg of 5	$15.50		
ECX1042-2	Pkg of 2	$6.50	Brown, normally-open (N.O.), push-push	Use on lighted Push-push button only

Note: See electrical specificatons on GCX Series 22mm Plastic Pilot Devices Specifications page at beginning of this section.

14.7 [0.58]   26.0 [1.02]   35.5 [1.40]   Dimensions: mm [inches]

EMERGENCY STOP legend plate

ECX1651

EMERGENCY STOP Legend Plate			
Part Number	Quantity	Price	Description
ECX1651	pkg. of 1	$2.75	Oversize yellow circular EMERGENCY STOP legend plate for 22mm E-stop type mushroom pushbuttons, 60mm outside diameter.

Two-position short lever operator

GR1172PR-5

Short Lever Replacement Operator				
Part Number	Lamp Color	Price	2-Position	Use with
GR1172PR-5	Red	$15.00	22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	Part numbers starting with GCX124, GCX125 GCX324, GCX325
GR1172PV-5	Green	$15.00	22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	
GR1172PG-5	Yellow	$15.00	22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	
GR1172PB-5	Blue	$15.00	22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	
GR1172PN-5	Clear	$15.00	22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	

22mm Plastic Pilot Device Accessories

Three-position short lever operator

GR1288PR-5

Short Lever Replacement Operator				
Part Number	Lamp Color	Price	3-Position	Use with
GR1288PR-5	Red	$15.00	22mm 3-position selector switch illuminated short lever replacement operator, 5/pk	Part numbers starting with GCX126, GCX128 GCX326, GVX328
GR1288PV-5	Green	$15.00	22mm 3-position selector switch illuminated short lever replacement operator, 5/pk	
GR1288PG-5	Yellow	$15.00	22mm 3-position selector switch illuminated short lever replacement operator, 5/pk	
GR1288PB-5	Blue	$15.00	22mm 3-position selector switch illuminated short lever replacement operator, 5/pk	
GR1288PN-5	Clear	$15.00	22mm 3-position selector switch illuminated short lever replacement operator, 5/pk	

Mushroom switch replacement operator

PL1298P-5

Mushroom Switch Replacement Operator				
Part Number	Lamp Color	Price	Description	Use with
PL1171PR-5	Red	$6.50	22mm, illuminated **momentary** Mushroom switch replacement operator, red, 5/pk	Part numbers starting with GCX1221, GCX3221 mushroom-style illuminated pushbuttons
PL1298P-5	Red	$6.50	22mm illuminated **twist-to-release** mushroom switch replacement operator, red, 5/pk	Part numbers starting with GCX1226, GCX3226 mushroom-style illuminated pushbuttons

Flush pushbutton replacement operator

GR1168PR-5

Flush Pushbutton Replacement Operator				
Part Number	Lamp Color	Price	Description	Use with
GR1168PR-5	Red	$8.25	22mm illuminated flush pushbutton replacement operator, 5/pk	Part numbers starting with GCX119, GCX120 GCX319, GCX320
GR1168PV-5	Green	$8.25	22mm illuminated flush pushbutton replacement operator, 5/pk	
GR1168PG-5	Yellow	$8.25	22mm illuminated flush pushbutton replacement operator, 5/pk	
GR1168PB-5	Blue	$8.25	22mm illuminated flush pushbutton replacement operator, 5/pk	
GR1168PN-5	Clear	$8.25	22mm illuminated flush pushbutton replacement operator, 5/pk	
GR1168PW-5	White	$8.25	22mm illuminated flush pushbutton replacement operator, 5/pk	

Extended pushbutton replacement operator

PL1308PR-5

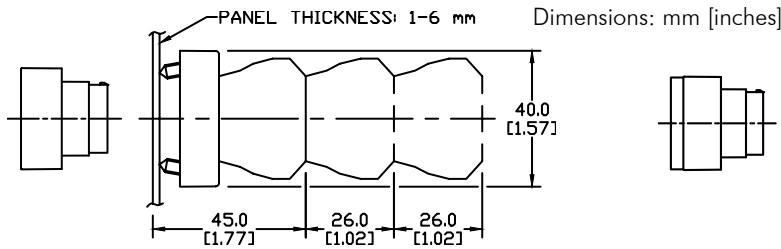| Extended Pushbutton Replacement Operator				
Part Number	Lamp Color	Price	Description	Use with
PL1308PR-5	Red	$6.25	22mm illuminated extended pushbutton, replacement operator, 5/pk	Part numbers starting with GCX121, GCX321
PL1308PV-5	Green	$6.25	22mm illuminated extended pushbutton, replacement operator, 5/pk	
PL1308PG-5	Yellow	$6.25	22mm illuminated extended pushbutton, replacement operator, 5/pk	
PL1308PB-5	Blue	$6.25	22mm illuminated extended pushbutton, replacement operator, 5/pk	
PL1308PN-5	Clear	$6.25	22mm illuminated extended pushbutton, replacement operator, 5/pk	
PL1308PW-5	White	$6.25	22mm illuminated extended pushbutton, replacement operator, 5/pk	

Note: All dimensions are in inches [millimeters].

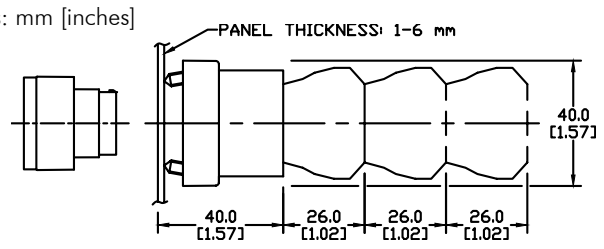# GCX Series 22mm Plastic Pilot Devices Specifications

Assembly information

These pushbuttons and indicator lights are supplied with the appropriate contact blocks, unless otherwise indicated. Use these drawings as a guide to make sure there is adequate clearance behind the panel.
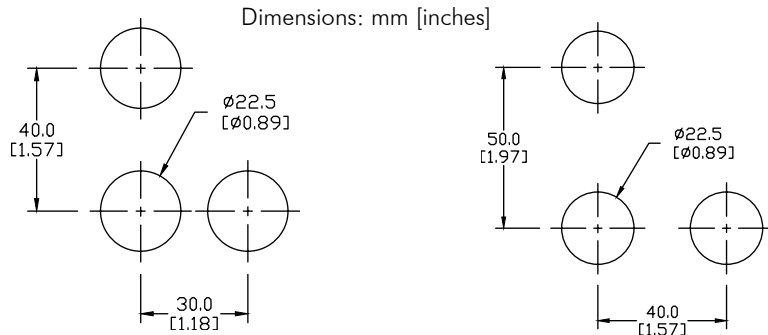
Pushbuttons and selector switches

PANEL THICKNESS: 1-6 mm
Dimensions: mm [inches]

40.0 [1.57]

45.0 [1.77] 26.0 [1.02] 26.0 [1.02]

Illuminated pushbuttons and selector switches/indicator lights

PANEL THICKNESS: 1-6 mm

40.0 [1.57]

40.0 [1.57] 26.0 [1.02] 26.0 [1.02] 26.0 [1.02]

Mounting

Dimensions: mm [inches]

40.0 [1.57]
Ø22.5 [Ø0.89]
30.0 [1.18]

This layout is suitable if all switches are 230V or less and the same polarity.

50.0 [1.97]
Ø22.5 [Ø0.89]
40.0 [1.57]

This layout is suitable if all switches are 400V or less and different polarity.
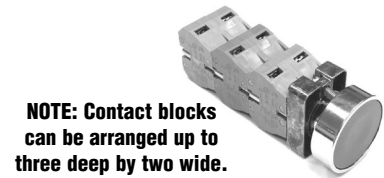
NOTE: Contact blocks can be arranged up to three deep by two wide.

Typical Wiring

4 ___/___ 3
Normally Open

2 ___/___ 1
Normally Closed

x1 ___◯___ x2
Indicator
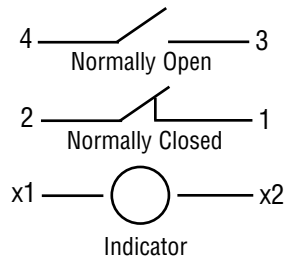
Specifications

These specifications apply to all the GCX and ECX 22mm plastic pushbuttons and switches.

Physical Specifications	
Standards Reference	CEI EN 60947-5-1, CSA C22-2 n.14
Approvals	UL File E189258, IMQ (where specified)
Enclosure Material	Fiberglass reinforced thermoplastic
Contacts Material	Silver
Protection Degree	IP 40 for GCX3151-24, GCX3151-120, GCX3153-24 and GCX3153-120. IP 65 for all others.(See Appendix of this catalog for explanation of IP ratings according to IEC 144 CEI 70-1.)
Electric Shock Protection	IEC 536, Class II
Temperature Ratings	Storage: -40º -to 80ºC (-40º to 176º F) Operating: -25º to +70ºC (-13º to 158º F)
Working Positions	All working positions are allowed
Mechanical Life	Pushbuttons, selector switches, joy stick switches: 1,000,000 operations Emergency mushrooms and push-push pushbuttons: 300,000 operations
Positive Opening Operation	(according to IEC 947-5-1) All functions incorporating an NC contact are positive opening operation

Electrical Specifications	
Rated Thermal Current (contact block)	A300, Q300 (Refer to E22 Series mounting/contact rating section for details)
Rated Insulation Voltage	Ui 660V according to CEI EN 60947-5-1, 300V according to CSA C22-2 n.14 and UL 508
Dielectric Strength	3kV (1 second)
Insulation Resistance	2MΩ min. (500VDC)
Initial Contact Resistance	≤25mΩ
Short-Circuit Protection*	Cartridge fuses gl 10 A-500V 10, 3x38l1 100 KA
Terminal Markings	According to CENELEC EN 50013
Connections	Single screw with non-loosening plate clamp,14AWG max., Tighten to 0.8Nm max
Contacts Operation	Self-cleaning types EN01 (N.C.) EN 10 (N.O.) slow action, positive opening
Operation Frequency	3600 operations per hour max.
Utilization Category	AC15 (Control of AC electromagnetic loads) 24 volts AC at 10 amps 130 volts AC at 6.5 amps DC13 (Control of DC electromagnetic loads) 24 volts DC at 1.5 amps 110 volts DC at 0.5 amps

Note: Recommended, not supplied

To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.