

# ECX Series 22mm Plastic Joystick Selector Switches

## Joystick selector switches

Four models available

Part Number	Price	Description
<b>ECX3510</b>	\$21.00	22mm plastic joystick-style selector switch, <b>two-position momentary</b> , <b>two N.O.</b> contact blocks
<b>ECX3512</b>	\$21.00	22mm plastic joystick-style selector switch, <b>two-position maintained</b> , <b>two N.O.</b> contact blocks
<b>ECX3520</b>	\$28.00	22mm plastic joystick-style selector switch, <b>four-position momentary</b> , <b>four N.O.</b> contact blocks
<b>ECX3524</b>	\$28.00	22mm plastic joystick-style selector switch, <b>four-position maintained</b> , <b>four N.O.</b> contact blocks



*Note: Four-position switches use two special contact blocks which are not replaceable.*

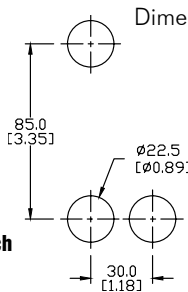
*Note: When using switches having two-deep contact blocks (4-position joysticks) with the 22mm plastic enclosures, use enclosures that are 74mm deep; 51mm-deep enclosures are too shallow.*

**ECX3510** (Two-position momentary)  
**ECX3512** (Two-position maintained)

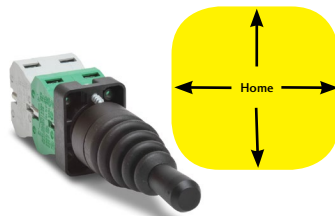
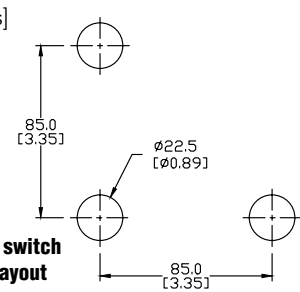
Moving the joystick UP will close contact on one side. Moving it DOWN will close contact on other side.

### Mounting

Two-position switch panel hole layout



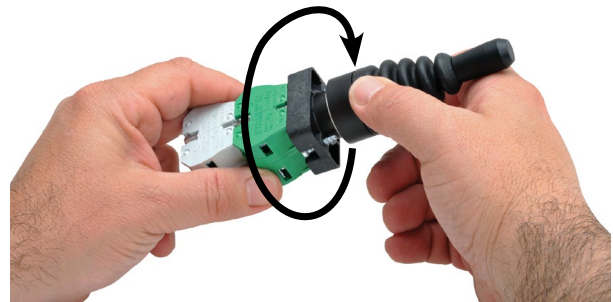
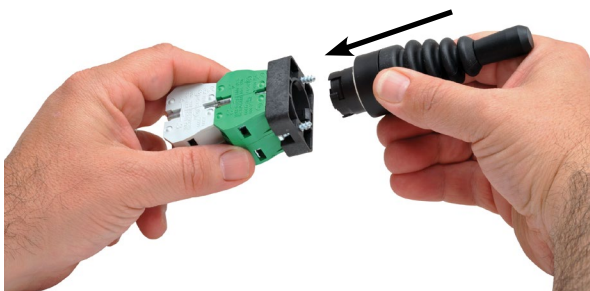
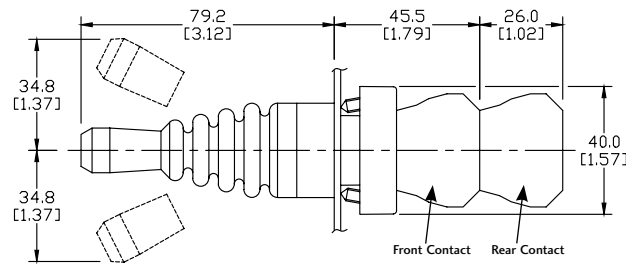
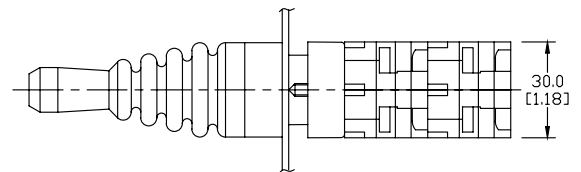
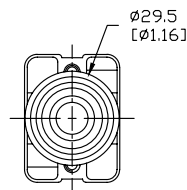
Four-position switch panel hole layout



**ECX3520** (Four-position momentary)  
**ECX3524** (Four-position maintained)

- Moving the joystick UP will close Green contact on one side and moving it DOWN will close Gray contact located behind it.
- Moving the joystick RIGHT will close Green contact on other side and moving it LEFT will close Gray contact located behind it.

### Dimensions



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 HT8LAMP TOOL.

## Replacement LED lamps



ECX1915-2

Replacement LED Lamps					
Part Number	Color	Quantity	Price	Rating	Description
ECX1911-2	Red	Pkg of 2 LED lamps	\$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. <b>Note: Will not replace</b> sealed Cutler-Hammer monoblock LED indicators.
ECX1912-2	Green		\$20.00		
ECX1913-2	Yellow		\$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	Pkg of 5 protective caps	\$6.75	Silicone protective covers for use with 22mm standard-size flush pushbuttons. <b>Will not work</b> 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		\$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 <b>extended pushbuttons only</b> . <b>Will not work</b> 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



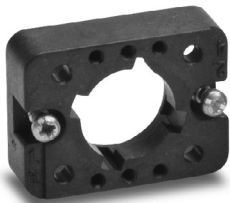
ECX1067-2

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.

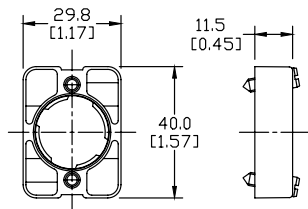
**Note:** All key-actuated 22mm plastic selector switches are keyed alike.

# 22mm Plastic Pilot Device Accessories

## Replacement 22mm support base



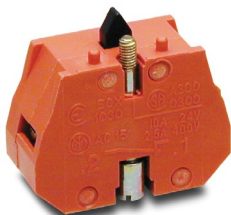
ECX3029-2



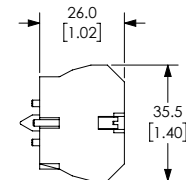
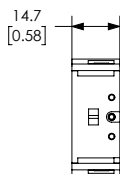
Dimensions: mm [inches]

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. <b>Will not work</b> with Cutler-Hammer 22mm switches sold by AUTOMATIONDIRECT

## Replacement contact blocks



ECX1030-2



Dimensions: mm [inches]

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
ECX1030-5	Pkg of 5	\$15.50		
ECX1040-2	Pkg of 2	\$6.50	Green, normally-open (N.O.)	Note: <b>Will not work</b> with Cutler-Hammer 22mm switches sold by AUTOMATIONDIRECT
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 specifications on GCX Series 22mm Plastic Pilot Devices Specifications page at beginning of this section.**

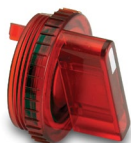
## EMERGENCY STOP legend plate



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/pkg	Part numbers starting with GCX124, GCX125, GCX324, GCX325
GR1172PV-5	Green	\$15.00	22mm 2-position selector switch illuminated short lever replacement operator, 5/pkg	
GR1172PG-5	Yellow	\$15.00	22mm 2-position selector switch illuminated short lever replacement operator, 5/pkg	
GR1172PB-5	Blue	\$15.00	22mm 2-position selector switch illuminated short lever replacement operator, 5/pkg	
GR1172PN-5	Clear	\$15.00	22mm 2-position selector switch illuminated short lever replacement operator, 5/pkg	

# 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 <b>momentary</b> Mushroom switch replacement operator, red, 5/pk	Part numbers starting with GCX1221, GCX3221 mushroom-style illuminated pushbuttons
PL1298P-5	Red	\$6.50	22mm illuminated <b>twist-to-release</b> 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	

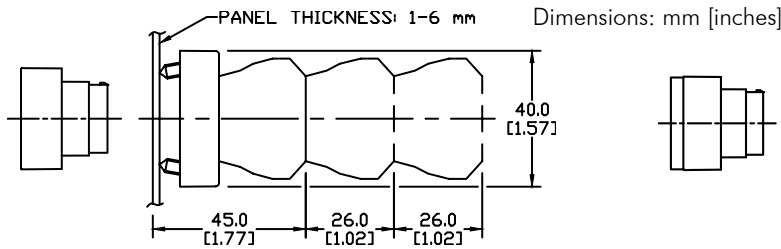
Note: All dimensions are in inches [millimeters].

# GCX Series 22mm Plastic Pilot Devices Specifications

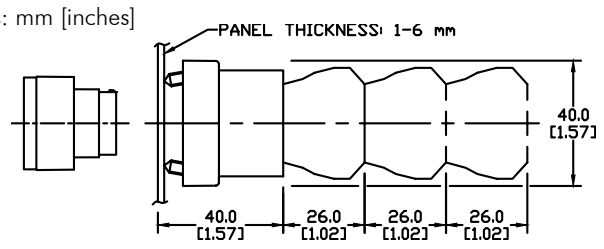
## Assembly information

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.

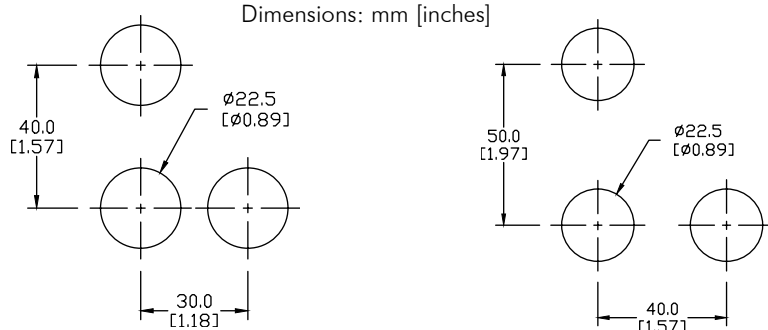
### Pushbuttons and selector switches



### Illuminated pushbuttons and selector switches/indicator lights

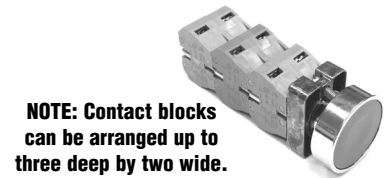


## Mounting



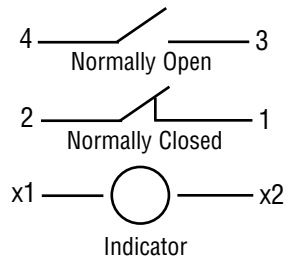
This layout is suitable if all switches are 230V or less and the same polarity.

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



## Specifications

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

Physical Specifications		Electrical Specifications	
<b>Standards Reference</b>	CEI EN 60947-5-1, CSA C22-2 n.14	<b>Rated Thermal Current (contact block)</b>	A300, Q300 (Refer to E22 Series mounting/contact rating section for details)
<b>Approvals</b>	UL File E189258, IMQ (where specified)	<b>Rated Insulation Voltage</b>	Ui 660V according to CEI EN 60947-5-1, 300V according to CSA C22-2 n.14 and UL 508
<b>Enclosure Material</b>	Fiberglass reinforced thermoplastic	<b>Dielectric Strength</b>	3kV (1 second)
<b>Contacts Material</b>	Silver	<b>Insulation Resistance</b>	2MΩ min. (500VDC)
<b>Protection Degree</b>	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.)	<b>Initial Contact Resistance</b>	≤25mΩ
<b>Electric Shock Protection</b>	IEC 536, Class II	<b>Short-Circuit Protection*</b>	Cartridge fuses gl 10 A-500V 10, 3x381 100 KA
<b>Temperature Ratings</b>	Storage: -40° to 80°C (-40° to 176° F) Operating: -25° to +70°C (-13° to 158° F)	<b>Terminal Markings</b>	According to CENELEC EN 50013
<b>Working Positions</b>	All working positions are allowed	<b>Connections</b>	Single screw with non-loosening plate clamp, 14AWG max., Tighten to 0.8Nm max
<b>Mechanical Life</b>	Pushbuttons, selector switches, joy stick switches: 1,000,000 operations Emergency mushrooms and push-push pushbuttons: 300,000 operations	<b>Contacts Operation</b>	Self-cleaning types EN01 (N.C.) EN 10 (N.O.) slow action, positive opening
<b>Positive Opening Operation</b>	(according to IEC 947-5-1) All functions incorporating an NC contact are positive opening operation	<b>Operation Frequency</b>	3600 operations per hour max.
		<b>Utilization Category</b>	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.