ECX Series 22mm Plastic Joystick Selector Switches

Joystick selector switches

Four models available

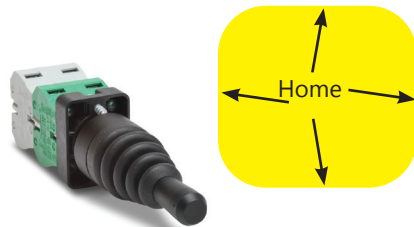|	22mm Joystick Selector Switches		
Part Number	Price	Drawing Link	Description
ECX3510		PDF	22mm plastic joystick-style selector switch, two-position momentary, two N.O. contact blocks
ECX3512		PDF	22mm plastic joystick-style selector switch, two-position maintained, two N.O. contact blocks
ECX3520		PDF	22mm plastic joystick-style selector switch, four-position momentary, four N.O. contact blocks
ECX3524		PDF	22mm plastic joystick-style selector switch, four-position maintained, four N.O. contact blocks

ECX3510, ECX3512

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

Note: Four-position switches use two special contact blocks which are not replaceable.
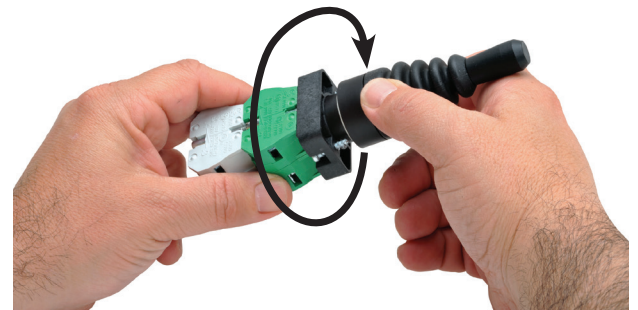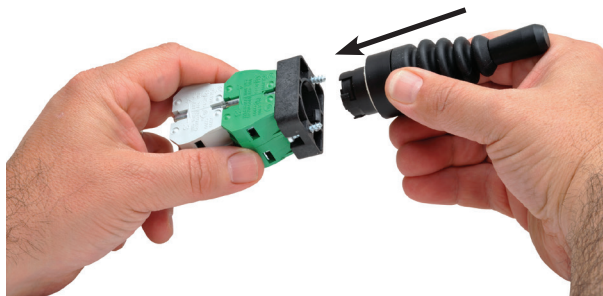
Note: When using switches having two-deep contact blocks (4-position joysticks) with the 22mm plastic enclosures, use enclosures that are 74mm deep; 51mm-deep enclosures are too shallow.

ECX3520, ECX3524

• 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.

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	5		6V@ 200mA 1.2 watts	6V replacement bulb for 22mm switches and indicators. Miniature bayonet base T31/4
ECX1902-5	5		24V@ 80mA 2 watts	24V replacement bulb for 22mm switches and indicators. Miniature bayonet base T31/4
ECX1904-5	5		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			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				
ECX1913-2	Yellow				
ECX1914-2	Blue	2			
ECX1915-2	White				
ECX1921-2	Red			120V@5mA 0.6 watts	
ECX1922-2	Green				
ECX1923-2	Yellow				
ECX1924-2	Blue				
ECX1925-2	White				

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		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			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			
ECX1702-5	Green	5		
ECX1703-5	Yellow			
ECX1704-5	Blue			
ECX1705-5	Clear			
ECX1706-5	Clear			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.
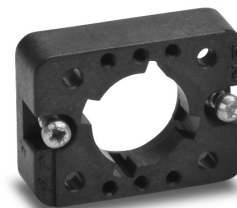
Replacement keys

ECX1067-2

Replacement Keys			
Part Number	Quantity	Price	Description
ECX1067-2	2		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.

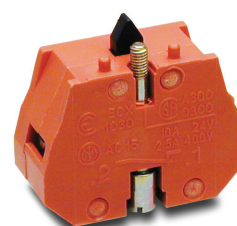# 22mm Plastic Pilot Device Accessories

Replacement 22mm support base

ECX3029-2

Replacement 22mm Support Base				
Part Number	**Quantity**	**Price**	**Drawing Link**	**Description**
ECX3029-2	1		PDF	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

Replacement contact blocks

ECX1030-2

Replacement Contact Blocks					
Part Number	**Quantity**	**Price**	**Drawing Link**	**Contacts**	**Description**
ECX1030-2	2		PDF	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	5		PDF		
ECX1040-2	2		PDF	Green, normally-open (N.O.)	
ECX1040-5	5		PDF		
ECX1042-2	2		PDF	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

EMERGENCY STOP legend plate

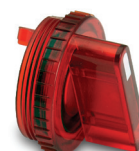**ECX1651**

EMERGENCY STOP Legend Plate				
Part Number	**Quantity**	**Price**	**Drawing Link**	**Description**
ECX1651	1		PDF	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		22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	Part numbers starting with GCX124, GCX125 GCX324, GCX325
GR1172PV-5	Green		22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	
GR1172PG-5	Yellow		22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	
GR1172PB-5	Blue		22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	
GR1172PN-5	Clear		22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	

22mm Plastic Pilot Device Accessories

Three-position short lever operator

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

GR1288PR-5

Mushroom switch replacement operator

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

PL1298P-5

Flush pushbutton replacement operator

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

GR1168PR-5

Extended pushbutton replacement operator

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

PL1308PR-5

22mm Plastic Pilot Device Accessories

Legend plates

Plastic legend plates for use with 22mm pilot devices. White engraved text on colored background. O-ring included.

ECX1670-B07

ECX1670-R03

Plastic Legend Plates				
Legend	*Color of Field*	*Part Number*	*Price*	*Drawing Link*
AUTO OFF HAND	Black	ECX1670-B46		PDF
Blank Plate	Black	ECX1670-B		PDF
Blank Plate	Red	ECX1670-R		PDF
CLAMP	Black	ECX1670-B24		PDF
CLOSE	Black	ECX1670-B01		PDF
DOWN	Black	ECX1670-B02		PDF
EMERG. STOP	Red	ECX1670-R03		PDF
EXTEND	Black	ECX1670-B51		PDF
FEEDER OFF	Black	ECX1670-B26		PDF
FEEDER ON	Black	ECX1670-B25		PDF
FOR OFF REV	Black	ECX1670-B19		PDF
FOR-REV	Black	ECX1670-B13		PDF
FORWARD	Black	ECX1670-B04		PDF
GRIP	Black	ECX1670-B53		PDF
HAND-AUTO	Black	ECX1670-B14		PDF
HAND OFF AUTO	Black	ECX1670-B20		PDF
HIGH	Black	ECX1670-B27		PDF
HIGH LOW	Black	ECX1670-B43		PDF
IN	Black	ECX1670-B28		PDF
INCH	Black	ECX1670-B29		PDF
JOG	Black	ECX1670-B05		PDF
JOG FOR	Black	ECX1670-B30		PDF
JOG REV	Black	ECX1670-B31		PDF
JOG-RUN	Black	ECX1670-B15		PDF
LOW	Black	ECX1670-B32		PDF
LOWER	Black	ECX1670-B33		PDF

Note: Legend plate text is 3mm in height

Plastic Legend Plates				
Legend	*Color of Field*	*Part Number*	*Price*	*Drawing Link*
MAN AUTO	Black	ECX1670-B44		PDF
MAN OFF AUTO	Black	ECX1670-B47		PDF
MOTOR RUN	Black	ECX1670-B22		PDF
MOTOR STOP	Black	ECX1670-B23		PDF
OFF	Black	ECX1670-B34		PDF
OFF-ON	Black	ECX1670-B16		PDF
ON	Black	ECX1670-B06		PDF
OPEN	Black	ECX1670-B07		PDF
OPEN OFF CLOSE	Black	ECX1670-B48		PDF
OPEN-CLOSE	Black	ECX1670-B17		PDF
OUT	Black	ECX1670-B35		PDF
POWER ON	Black	ECX1670-B21		PDF
PULL ON PUSH OFF	Black	ECX1670-B50		PDF
RAISE	Black	ECX1670-B36		PDF
READY	Black	ECX1670-B37		PDF
RELEASE	Black	ECX1670-B54		PDF
RESET	Black	ECX1670-B38		PDF
RETRACT	Black	ECX1670-B52		PDF
REVERSE	Black	ECX1670-B08		PDF
RUN	Black	ECX1670-B09		PDF
SAFE RUN	Black	ECX1670-B45		PDF
START	Black	ECX1670-B10		PDF
STOP	Black	ECX1670-B11		PDF
STOP	Red	ECX1670-R11		PDF
TEST	Black	ECX1670-B39		PDF
TRANSFER	Black	ECX1670-B40		PDF
TRIP	Black	ECX1670-B41		PDF
UNCLAMP	Black	ECX1670-B42		PDF
UP	Black	ECX1670-B12		PDF
UP OFF DOWN	Black	ECX1670-B49		PDF
UP-DOWN	Black	ECX1670-B18		PDF

22mm Plastic Pilot Device Accessories

ECX1690-B16

ECX1690-R11

Jumbo Plastic Legend Plates				
Legend	Color of Field	Part Number	Price	Drawing Link
Blank Plate	Black	ECX1690-B		PDF
Blank Plate	Red	ECX1690-R		PDF
EMERG. STOP	Red	ECX1690-R03		PDF
HAND-OFF-AUTO	Black	ECX1690-B20		PDF
JOG	Black	ECX1690-B05		PDF
OFF-ON	Black	ECX1690-B16		PDF
OPEN-CLOSE	Black	ECX1690-B17		PDF
POWER ON	Black	ECX1690-B21		PDF
START	Black	ECX1690-B10		PDF
STOP	Red	ECX1690-R11		PDF

Note: Legend plate text is 3mm in height

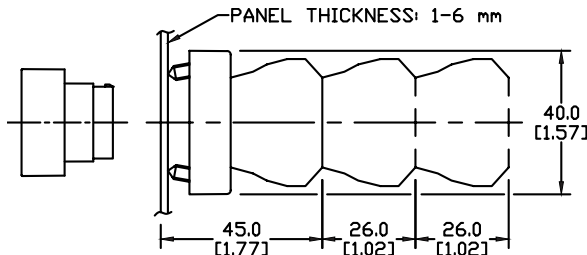# GCX Series 22mm Plastic Pilot Devices Specifications

Assembly information

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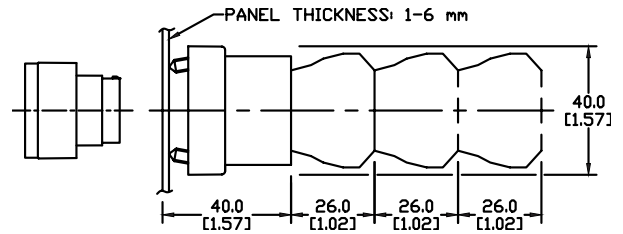Use these drawings as a guide to make sure there is adequate clearance behind the panel.
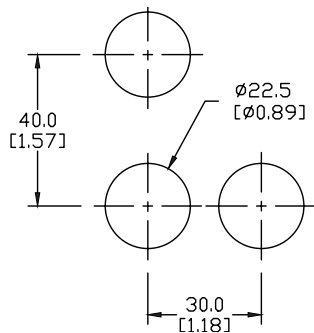
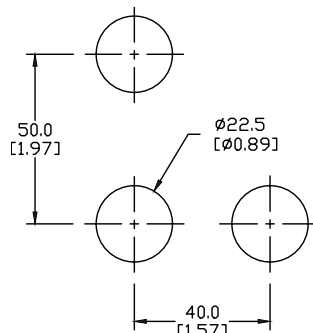## Dimensions

mm
[inches]

Pushbuttons and selector switches

PANEL THICKNESS: 1-6 mm

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

Ø22.5 [Ø0.89]

40.0 [1.57]

30.0 [1.18]

This layout is suitable if all switches are 230V or less and the same polarity.
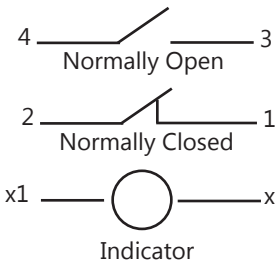
Ø22.5 [Ø0.89]

50.0 [1.97]

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: -40 -to 80ºC (-40 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