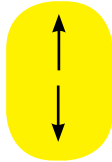


ECX Series 22mm Metal Joystick Selector Switches

Joystick selector switches

Four models available



Part Number	Price	Description
ECX1510	\$26.50	22mm metal joystick-style selector switch, two-position momentary, two N.O. contact blocks
ECX1512	\$26.50	22mm metal joystick-style selector switch, two-position maintained, two N.O. contact blocks
ECX1520	\$34.50	22mm metal joystick-style selector switch, four-position momentary, four N.O. contact blocks
ECX1524	\$34.50	22mm metal joystick-style selector switch, four-position maintained, four N.O. contact blocks

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

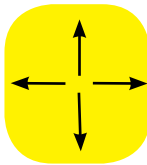
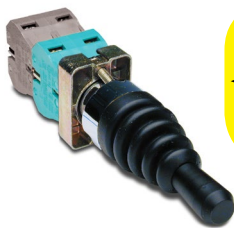
Note: When using switches having two-deep contact blocks (4-position joysticks) with the 22mm plastic enclosures, use enclosures that are 74mm deep; 51mm-deep enclosures are too shallow.

Mounting

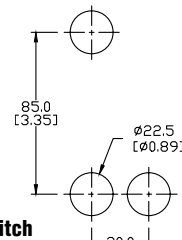
Dimensions: mm [inches]

ECX1510 (Two-position momentary) ECX1512 (Two-position maintained)

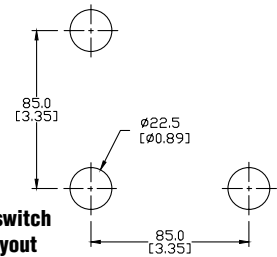
- Moving the joystick UP will close contact on one side.
- Moving the joystick DOWN will close contact on other side.



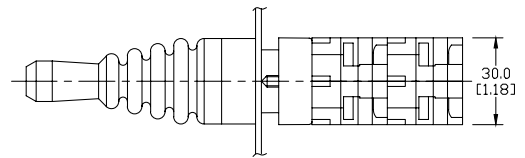
Two-position switch panel hole layout



Four-position switch panel hole layout

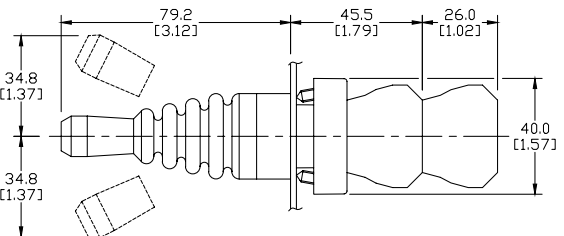
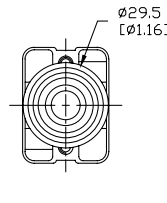


Dimensions



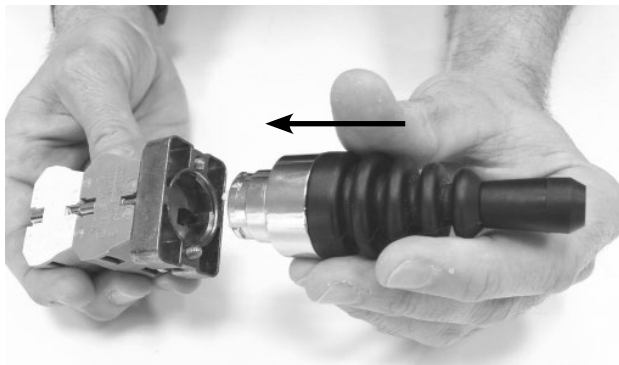
ECX1520 (Four-position momentary) ECX1524 (Four-position maintained)

- 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.



Important installation note

It is very important that the joystick be assembled correctly to ensure proper operation.



Insert operator into support base (panel is not shown).



Twist clockwise until it clicks into place. Carefully tighten the securing screws. Do not over-tighten. (4.5 lb·in) If the operator is not "clicked" into position before the screws are tightened, the switch will not work properly.

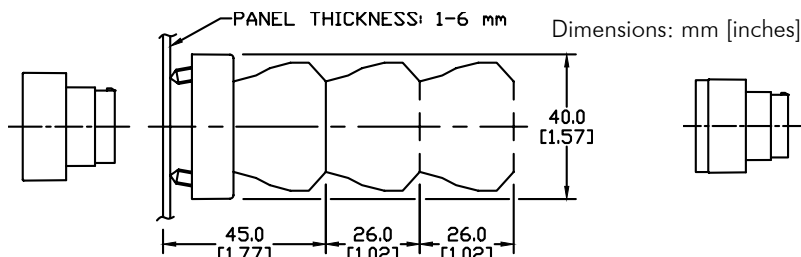
For accessories, see 22mm Metal Pilot Device Accessories in this section.

GCX Series 22mm Metal Pilot Devices Specifications

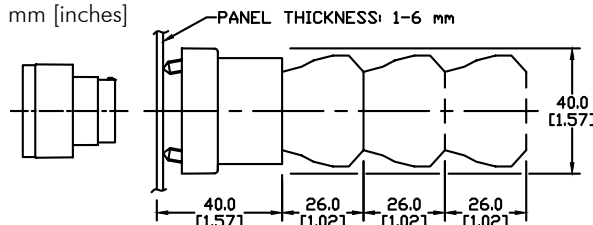
Assembly information

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.

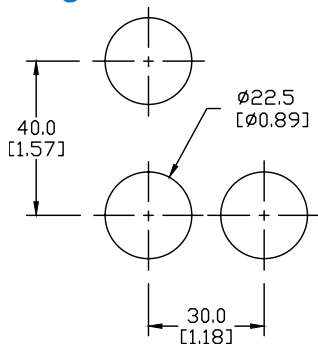
Pushbuttons and selector switches



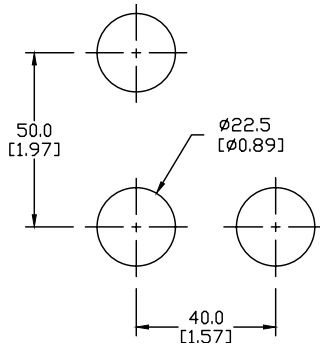
Illuminated pushbuttons and selector switches/pilot lights



Mounting



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

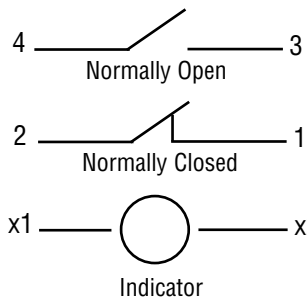


This layout is suitable if all switches are 400V or less and different polarity.



NOTE: Contact blocks can be arranged up to three deep by two wide.

Typical Wiring



Specifications

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

Physical Specifications	
Standards Reference	CEI EN 60947-5-1, CSA C22-2 n.14
Approvals	CSA, IMQ (where specified), UL File E189258
Enclosure Material	Zn + Al + Mg alloy, chromium plated
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.)
Temperature Ratings	Storage: -40° to 80°C (-40° to 176° F) Operating: -25° to +70°C (-13° to 158° F)
Working Positions	All working positions are allowed
Mechanical Life	Pushbuttons, selector switches: Joy stick switches: 1,000,000 operations Mushroom pushbuttons: 300,000 operations

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
Dielectric Strength	3kV (1 second)
Insulation Resistance	2MΩ min. (500VDC)
Initial Contact Resistance	≤25mΩ
Short-Circuit Protection*	Cartridge fuses gl 10A - 500V 10,3x38l1 100kA
Terminal Markings	According to CENELEC EN 50013
Connections	Single screw with non-loosening plate clamp, 14AWG 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

22mm Metal Pilot Device Accessories

Replacement incandescent bulbs



ECX1902-5

Replacement Incandescent Bulbs				
Part Number	Quantity	Price	Rating	Description
ECX1900-5	Pkg of 5 bulbs	\$8.50	6V@ 200mA , 1.2 watts	6V replacement bulb for 22mm switches and indicators. Miniature bayonet base T31/4
ECX1902-5	Pkg of 5 bulbs	\$8.50	24V@ 80mA 2 watts	24V replacement bulb for 22mm switches and indicators. Miniature bayonet base T31/4
ECX1904-5	Pkg of 5 bulbs	\$17.50	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	Pkg of 2 LED lamps	\$15.50	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		\$19.50		
ECX1913-2	Yellow		\$15.50		
ECX1914-2	Blue		\$21.00		
ECX1915-2	White		\$25.00		
ECX1921-2	Red		\$15.50	120V@5mA 0.6 watts	
ECX1922-2	Green		\$19.50		
ECX1923-2	Yellow		\$15.50		
ECX1924-2	Blue		\$21.00		
ECX1925-2	White		\$25.00		

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.

Pilot Light replacement lens



PL1170PR-5

Pilot Light Replacement Lens				
Part Number	Lamp Color	Price	Description	Use with
PL1170PR-5	Red	\$6.00	22mm metallic series pilot light replacement lens, 5/pk	Part numbers starting with GCX123
PL1170PV-5	Green	\$6.00	22mm metallic series pilot light replacement lens, 5/pk	
PL1170PG-5	Yellow	\$6.00	22mm metallic series pilot light replacement lens, 5/pk	
PL1170PB-5	Blue	\$6.00	22mm metallic series pilot light replacement lens, 5/pk	
PL1170PN-5	Clear	\$6.00	22mm metallic series pilot light replacement lens, 5/pk	
PL1170PW-5	White	\$6.00	22mm metallic series pilot light replacement lens, 5/pk	

22mm Metal Pilot Device Accessories

Protective covers for pushbuttons



ECX1703-5

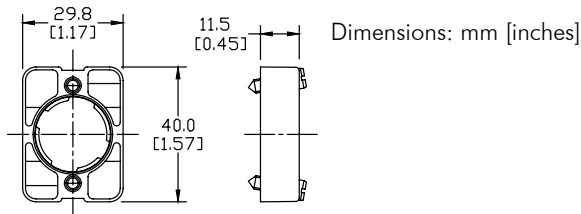
Protective Covers for Pushbuttons				
Part Number	Color	Quantity	Price	Description
ECX1700-5	Black	Pkg of 5 Protective caps	\$6.50	Silicone protective covers for use with 22mm standard-size flush pushbuttons.
ECX1701-5	Red		\$6.50	
ECX1702-5	Green		\$6.50	
ECX1703-5	Yellow		\$6.50	
ECX1704-5	Blue		\$6.50	
ECX1705-5	Clear		\$6.50	
ECX1706-5	Clear		\$11.50	Clear silicone protective covers for use with 22mm illuminated and extended pushbuttons only . Will not work with Cutler-Hammer pushbuttons or 22mm mushroom pushbuttons.

Replacement 22mm support base

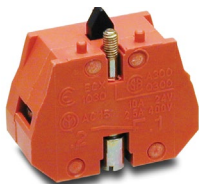


ECX1029-2

Replacement 22mm Support Base			
Part Number	Quantity	Price	Description
ECX1029-2	Pkg of 1	\$6.00	22mm metal 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



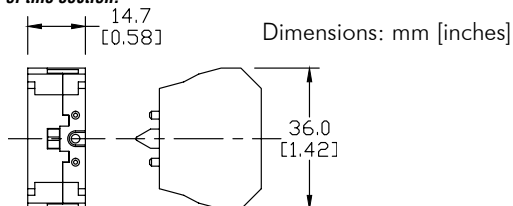
Replacement contact blocks



ECX1030-2

Replacement Contact Blocks				
Part Number	Quantity	Price	Contacts	Description
ECX1030-2	Pkg of 2	\$6.25	Red, normally-closed (N.C.)	Replacement contact block for 22mm pushbuttons and selector switches. Tightening Torque, terminal screw: 0.8Nm max mounting screw: 0.5Nm max
ECX1030-5	Pkg of 5	\$15.00	Green, normally-open (N.O.)	
ECX1040-2	Pkg of 2	\$6.25	Green, normally-open (N.O.)	Note: Will not work with Cutler-Hammer 22mm switches.
ECX1040-5	Pkg of 5	\$15.00	Brown, normally-open (N.O.), push-push	
ECX1042-2	Pkg of 2	\$6.25	Brown, normally-open (N.O.), push-push	Replacement normally open push-push contact blocks for 22mm pushbutton and selector switches, pack of 2. Note: Will not work with Cutler-Hammer 22mm switches.

Note: See electrical specifications on ECX Series 22mm Metal Pilot Devices Specifications page at beginning of this section.



Replacement keys



ECX1067-2

Replacement Keys			
Part Number	Quantity	Price	Description
ECX1067-2	Pkg of 2 sets (2 keys per set)	\$5.75	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 metal selector switches are keyed alike.

22mm Metal Pilot Device Accessories

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.

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.

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

Two-position short lever operator



GR1172PR-5

Short Lever Replacement Operator				
Part Number	Lamp Color	Price	2-Position	Use with
GR1172PR-5	Red	\$14.50	22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	Part numbers starting with GCX124, GCX125 GCX324, GCX325
GR1172PV-5	Green	\$14.50	22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	
GR1172PG-5	Yellow	\$14.50	22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	
GR1172PB-5	Blue	\$14.50	22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	
GR1172PN-5	Clear	\$14.50	22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	

Three-position short lever operator



GR1288PR-5

Short Lever Replacement Operator				
Part Number	Lamp Color	Price	3-Position	Use with
GR1288PR-5	Red	\$14.50	22mm 3-position selector switch illuminated short lever replacement operator, 5/pk	Part numbers starting with GCX126, GCX128 GCX326, GCX328
GR1288PV-5	Green	\$14.50	22mm 3-position selector switch illuminated short lever replacement operator, 5/pk	
GR1288PG-5	Yellow	\$14.50	22mm 3-position selector switch illuminated short lever replacement operator, 5/pk	
GR1288PB-5	Blue	\$14.50	22mm 3-position selector switch illuminated short lever replacement operator, 5/pk	
GR1288PN-5	Clear	\$14.50	22mm 3-position selector switch illuminated short lever replacement operator, 5/pk	

22mm Metal Pilot Device Accessories

Mushroom switch replacement operator



PL1298P-5

Mushroom Switch Replacement Operator				
Part Number	Lamp Color	Price	Description	Use with
PL1171PR-5	Red	\$6.25	22mm, illuminated momentary Mushroom switch replacement operator, red, 5/pk	Part numbers starting with GCX1221, GCX3221 mushroom-style illuminated pushbuttons
PL1298P-5	Red	\$6.25	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	\$8.00	22mm illuminated flush pushbutton replacement operator, 5/pk	Part numbers starting with GCX119, GCX120 GCX319, GCX320
GR1168PV-5	Green	\$8.00	22mm illuminated flush pushbutton replacement operator, 5/pk	
GR1168PG-5	Yellow	\$8.00	22mm illuminated flush pushbutton replacement operator, 5/pk	
GR1168PB-5	Blue	\$8.00	22mm illuminated flush pushbutton replacement operator, 5/pk	
GR1168PN-5	Clear	\$8.00	22mm illuminated flush pushbutton replacement operator, 5/pk	
GR1168PW-5	White	\$8.00	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	\$6.00	22mm illuminated extended pushbutton, replacement operator, 5/pk	Part numbers starting with GCX121, GCX321
PL1308PV-5	Green	\$6.00	22mm illuminated extended pushbutton, replacement operator, 5/pk	
PL1308PG-5	Yellow	\$6.00	22mm illuminated extended pushbutton, replacement operator, 5/pk	
PL1308PB-5	Blue	\$6.00	22mm illuminated extended pushbutton, replacement operator, 5/pk	
PL1308PN-5	Clear	\$6.00	22mm illuminated extended pushbutton, replacement operator, 5/pk	
PL1308PW-5	White	\$6.00	22mm illuminated extended pushbutton, replacement operator, 5/pk	

E22 Series Cross-reference Tables

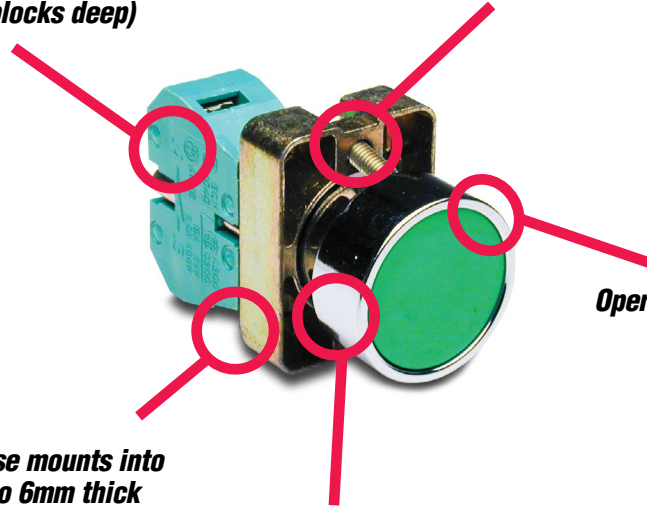
Pushbutton, Indicator Light, and Selector Switch Cross Reference				
Cutler-Hammer	Allen-Bradley	Telemecanique XB2B (chrome bezel) XA2B (black bezel)	GE C-2000	Siemens
Non-Illuminated Pushbuttons				
E22PB1A	800EPF2 800E3LX10	ZA2BA2 ZA2BZ101	P9XPNG10N0	3SB1000-0AB01 3SB02-CBH 3SB1400-0B
E22PB3A	800EPF3 800E3LX10	ZA2BA3 ZA2BZ101	P9XPNVG10N0	3SB1000-0AE01 3SB02-CBH 3SB1400-0B
E22EB2B	800EPE4 800E3LX01	ZA2BL4 ZA2BZ102	P9XPNRS20N0	3SB1000-0LC01 3SB02-CBH 3SB1400-0B
E22ASB204	ENCLSR: 800E-2P 800EP-F3 800E-2LX10 800EP-E4 800E-2LX01 800E-34BE208 800E-34R212	XALB211 Both flush - stop is not extended	P9CPNRSN20N0 P9CPNVGN10N0 P9EPB02 P9AEPN201 P9AEPN202	3SB02-S21
Illuminated Pushbuttons				
E22TB2X4B	800EPL4 800E3DL3 800E3X01	ZA2BW14 ZA2BW06224	P9XPLRSDN12NADI	3SB1001-0LC01 3SB02-CBH 3SB1400-0C 3SB1400-2H
E22TB3X4A	800EPL3 800E3DL3 800E3X10	ZA2B213 AZ2B206124	P9XPLVSDN12NADI	3SB1001-0LE01 3SB02-CBH 3SB1400-0B 3SB1440-2H
E22TB9X4A	800EPL5 800E3DL3 800E3X10	ZA2BW15 ZA2BW06124	P9XPLASDN12NADI	3SB1001-0LD01 3SB02-CBH 3SB1400-0B 3SB1400-2H
E22TB2X10B	800EPL4 800E2RL5 800E3X01	ZA2BW14 ZA2BW062120	P9XPLRSB P9PRNVJ P9PDNVD	3SB1001-0LC01 3SB02-CBH 3SB1400-0C
E22TB3X10A	800EPL3 800E2RL5 800E3X10	ZA2BW13 ZA2BW061120	P9XPLVSD P9PRNVJ P9PDNVD	3SB02-UPR1P 3SB1910-0DE 3SB1400-0B
E22TB9X10A	800DPLE5 800E2RL5 800E3X10	ZA2BW15 ZA2B2061120	P9XPLASD P9PRNVJ P9PDNVD	3SB02-UPR1P 3SB1910-0DD 3SB1400-0B

GCX Series 22mm Metal Pilot Devices

Features

Any combination of contact blocks is allowed, up to a total of six (two blocks wide and three blocks deep)

Secure mounting method eliminates twisting in mounting hole

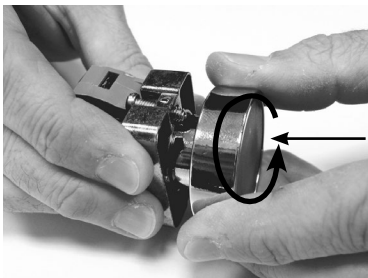


Operators are protected to IP65

Support base mounts into panels up to 6mm thick

Chrome-plated alloy bezel is not only corrosion-resistant, but also attractive

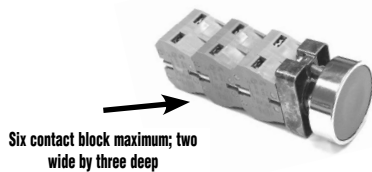
Easy installation



To remove operator, press toward support base and twist counterclockwise.

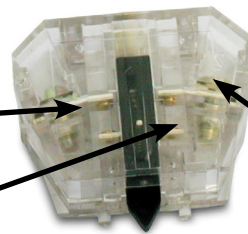


To install switch, place support base against rear of panel (not shown here), insert the operator and twist clockwise until it clicks into place. Carefully tighten the securing screws. Do not over-tighten.



Six contact block maximum; two wide by three deep

Self-cleaning silver contacts provide reliable, low-energy switching



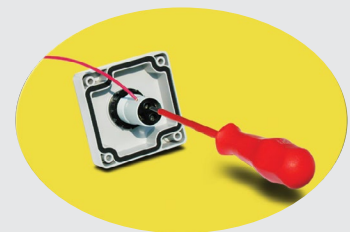
Pressure plate wiring terminals for easy, secure wiring, accepting up to 14 AWG wire

Contacts rated A300
(Refer to E22 Series mounting/contact rating section for details)

Clear contact block for illustration purposes. Clear contact blocks are not available for sale from AutomationDirect.

Minimum current rating
15mA @ 24vdc

All indicators offer side wire entry with back screw terminals for easy wiring

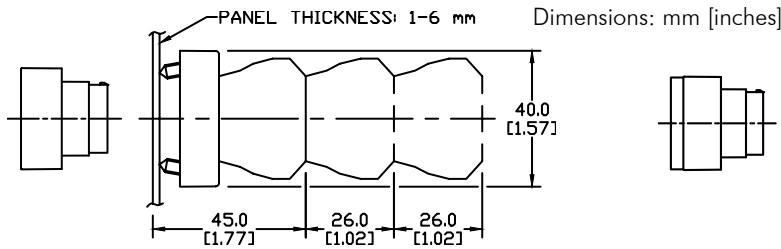


GCX Series 22mm Plastic Pilot Devices Specifications

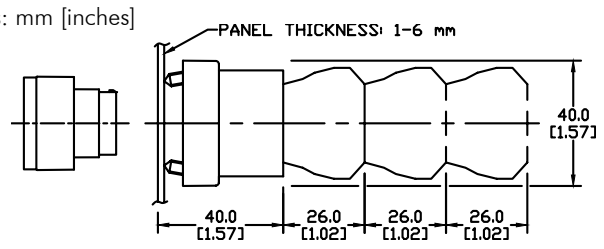
Assembly information

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.

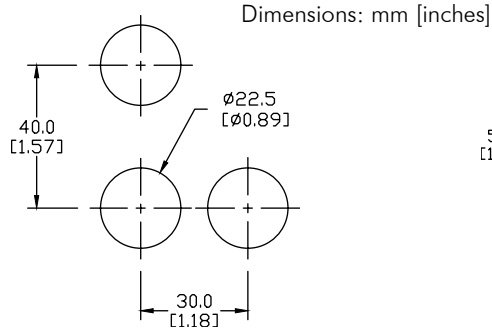
Pushbuttons and selector switches



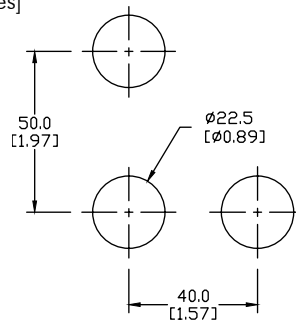
Illuminated pushbuttons and selector switches/indicator lights



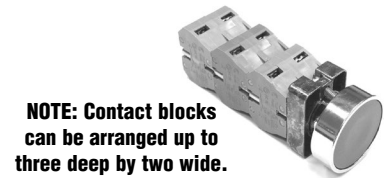
Mounting



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

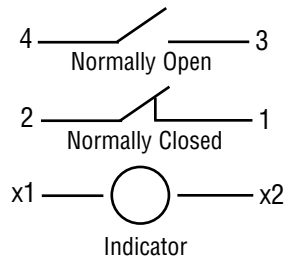


This layout is suitable if all switches are 400V or less and different polarity.



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