GCX Series 22mm Plastic Illuminated Pushbuttons

GCX3221-24

Mushroom-Style Illuminated Pushbuttons

All pushbuttons include operator, support base, indicating bulb (if applicable) and contact block. They are shipped unassembled. Legend plate is not included and must be ordered separately. All switches in this series use replacement contact block ECX1030 (Red, N.C.) or ECX1040 (Green, N.O.), sold separately in packages of two or five.

				Mushroom-Style Illuminated Pushbuttons		
Part Number	Lamp Color	Price	Drawing Link	Description	Replacement Incandescent Bulb [5 per pack]	Replacement LED Lamp [2 per pack]
Incandescent						
GCX3221-24	Red	$12.50	PDF	22mm plastic momentary pushbutton with incandescent illuminated 40mm mushroom actuator, 24VDC/VAC, one N.C. contact block	ECX1902-5, 80mA	ECX1911-2, 26mA
GCX3221-120	Red	$14.50	PDF	22mm plastic momentary pushbutton with incandescent illuminated 40mm mushroom actuator, 120VDC/VAC, one N.C. contact block	ECX1904-5, 20mA	ECX1921-2, 5mA
GCX3226-24	Red	$14.50	PDF	22mm plastic pushbutton with incandescent illuminated 40mm mushroom twist-to-release actuator, 24VDC/VAC, one N.C. contact block	ECX1902-5, 80mA	ECX1911-2, 26mA
GCX3226-120	Red	$16.00	PDF	22mm plastic pushbutton with incandescent illuminated 40mm mushroom twist-to-release actuator, 120VDC/VAC, one N.C. contact block	ECX1904-5, 20mA	ECX1921-2, 5mA
LED						
GCX3221-24L	Red	$17.50	PDF	22mm plastic momentary pushbutton with LED illuminated 40mm mushroom actuator, 24VDC/VAC, one N.C. contact block	ECX1902-5, 80mA	ECX1911-2, 26mA
GCX3221-120L	Red	$19.00	PDF	22mm plastic momentary pushbutton with LED illuminated 40mm mushroom actuator, 120VDC/VAC, one N.C. contact block	ECX1904-5, 20mA	ECX1921-2, 5mA
GCX3226-24L	Red	$20.00	PDF	22mm plastic pushbutton with LED illuminated 40mm mushroom twist-to-release actuator, 24VDC/VAC, one N.C. contact block	ECX1902-5, 80mA	ECX1911-2, 26mA
GCX3226-120L	Red	$21.00	PDF	22mm plastic pushbutton with LED illuminated 40mm mushroom twist-to-release actuator, 120VDC/VAC, one N.C. contact block	ECX1904-5, 20mA	ECX1921-2, 5mA

Non-Illuminated Mushroom Pushbuttons

Feature large 60mm dia. actuator and mount in standard 22mm hole.

				Non-illuminated Mushroom Pushbuttons
Part Number	Color	Price	Drawing Link	Description
GCX3131	Red	$10.50	PDF	Twist-to-release actuator with one N.C. contact block, fits in 22mm dia. hole, has large 40mm dia. mushroom-style actuator.
GCX3134	Black	$8.50	PDF	Momentary action with one N.O. contact block, fits in 22mm dia. hole, has large 40mm dia. mushroom-style actuator.
GCX3135	Red	$8.50	PDF	Momentary action with one N.C. contact block, fits in 22mm dia. hole, has large 40mm dia. mushroom-style actuator. EMERGENCY legend plate available (see Accessories).
GCX3136	Red	$13.00	PDF	Twist-to-release actuator with one N.C. contact block, fits in 22mm dia. hole. 60mm dia. mushroom-style actuator.
GCX3137	Red	$10.50	PDF	Momentary action with one N.C. contact block, fits in 22mm dia. hole, has large 60mm dia. mushroom-style. EMERGENCY legend plate available (see Accessories).
GCX3139	Yellow	$8.50	PDF	Momentary action with one N.O. contact block, fits in 22mm dia. hole, has large 40mm dia. mushroom-style actuator.
GCX3141	Red	$15.50	PDF	Key operated release with one N.C. contact block, fits in 22mm dia. hole, has large 40mm dia. mushroom-style actuator. EMERGENCY legend plate available (see Accessories).

GCX3137

GCX3141 (key operated)

Note: Keyed switches come with two keys. All plastic 22mm keyed switches are keyed alike. Replacement keys are available. Order part no. ECX1067-2 (pkg. of 2).

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

GCX Series 22mm Plastic 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

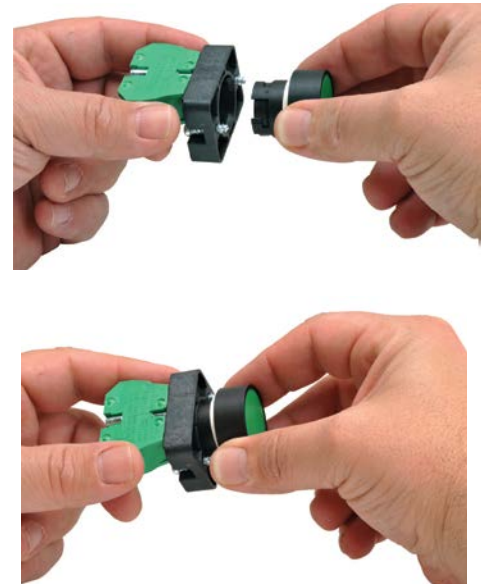*Operators are protected to IP40 or IP65 (see specifications below)*

Support base mounts into panels up to 6 mm thick

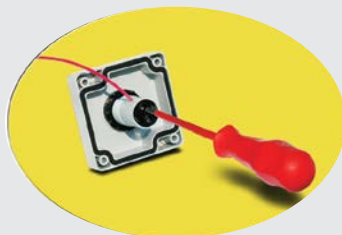*Fiberglass reinforced thermoplastic bezel*

Easy installation

1)

2)

3) CLICK

4) Turn 1st screw to just touch the panel

5) Tighten 2nd screw

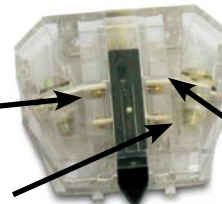**6)** Tighten 1st screw

Max torque: 4.5 lb-in

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

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 www.AutomationDirect.com

22mm Plastic Pilot Device Accessories

Replacement Incandescent Bulbs

ECX1902-5

Replacement LED Lamps

ECX1915-2

Hole Plug

ECX1490

Protective Covers for Pushbuttons

ECX1703-5

Knockout Punches

109225

Replacement Keys

ECX1067-2

Replacement Incandescent Bulbs				
Part Number	*Quantity*	*Price*	*Rating*	*Description*
ECX1900-5	5	$9.50	6V@ 200mA 1.2 watts	6V replacement bulb for 22mm switches and indicators. Miniature bayonet base T31/4
ECX1902-5	5	$9.50	24V@ 80mA 2 watts	24V replacement bulb for 22mm switches and indicators. Miniature bayonet base T31/4
ECX1904-5	5	$20.00	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					
Part Number	*Color*	*Quantity*	*Price*	*Rating*	*Description*
ECX1911-2	Red	2	$17.50	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		$22.00		
ECX1913-2	Yellow		$17.50		
ECX1914-2	Blue		$23.50		
ECX1915-2	White		$28.00		
ECX1921-2	Red		$17.50	120V@5mA 0.6 watts	
ECX1922-2	Green		$22.00		
ECX1923-2	Yellow		$17.50		
ECX1924-2	Blue		$23.50		
ECX1925-2	White		$28.00		

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			
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				
Part Number	*Color*	*Quantity*	*Price*	*Description*
ECX1700-5	Black	5	$7.50	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		$7.50	
ECX1702-5	Green		$7.50	
ECX1703-5	Yellow		$7.50	
ECX1704-5	Blue		$7.50	
ECX1705-5	Clear		$7.50	
ECX1706-5	Clear		$13.00	Clear silicone protective covers for use with 22mm illuminated and extended pushbuttons only. Will not work with Cutler-Hammer pushbuttons or 22mm mushroom pushbuttons.

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.

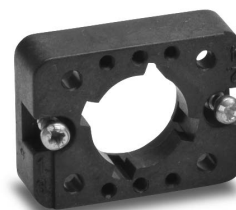| Replacement Keys			
Part Number	*Quantity*	*Price*	*Description*
ECX1067-2	2	$6.50	Replacement key for GCX series key-actuated selector switches, pack of 2 sets (2 keys each). NOTE: Will not work with Cutler-Hammer 22mm switches.

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

22mm Plastic Pilot Device Accessories

Replacement 22mm Support Base

Replacement 22mm Support Base				
Part Number	Quantity	Price	Drawing Link	Description
ECX3029-2	1	$1.75	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

ECX3029-2

Replacement Contact Blocks

Replacement Contact Blocks					
Part Number	Quantity	Price	Drawing Link	Contacts	Description
ECX1030-2	2	$7.25	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	$17.00	PDF		
ECX1040-2	2	$7.25	PDF	Green, normally-open (N.O.)	
ECX1040-5	5	$17.00	PDF		
ECX1042-2	2	$7.25	PDF	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

ECX1030-2

EMERGENCY STOP Legend Plate

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

ECX1651

Two-Position Short Lever Pperator

Short Lever Replacement Operator				
Part Number	Lamp Color	Price	2-Position	Use with
GR1172PR-5	Red	$16.50	22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	Part numbers starting with GCX124, GCX125 GCX324, GCX325
GR1172PV-5	Green	$16.50	22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	
GR1172PG-5	Yellow	$16.50	22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	
GR1172PB-5	Blue	$16.50	22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	
GR1172PN-5	Clear	$16.50	22mm 2-position selector switch illuminated short lever replacement operator, 5/pk	

GR1172PR-5

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	$16.50	22mm 3-position selector switch illuminated short lever replacement operator, 5/pk	Part numbers starting with GCX126, GCX128 GCX326, GVX328
GR1288PV-5	Green	$16.50	22mm 3-position selector switch illuminated short lever replacement operator, 5/pk	
GR1288PG-5	Yellow	$16.50	22mm 3-position selector switch illuminated short lever replacement operator, 5/pk	
GR1288PB-5	Blue	$16.50	22mm 3-position selector switch illuminated short lever replacement operator, 5/pk	
GR1288PN-5	Clear	$16.50	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	$7.25	22mm, illuminated momentary Mushroom switch replacement operator, red, 5/pk	Part numbers starting with GCX1221, GCX3221 mushroom-style illuminated pushbuttons
PL1298P-5	Red	$7.25	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	$9.00	22mm illuminated flush pushbutton replacement operator, 5/pk	Part numbers starting with GCX119, GCX120 GCX319, GCX320
GR1168PV-5	Green	$9.00	22mm illuminated flush pushbutton replacement operator, 5/pk	
GR1168PG-5	Yellow	$9.00	22mm illuminated flush pushbutton replacement operator, 5/pk	
GR1168PB-5	Blue	$9.00	22mm illuminated flush pushbutton replacement operator, 5/pk	
GR1168PN-5	Clear	$9.00	22mm illuminated flush pushbutton replacement operator, 5/pk	
GR1168PW-5	White	$9.00	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	$7.00	22mm illuminated extended pushbutton, replacement operator, 5/pk	Part numbers starting with GCX121, GCX321
PL1308PV-5	Green	$7.00	22mm illuminated extended pushbutton, replacement operator, 5/pk	
PL1308PG-5	Yellow	$7.00	22mm illuminated extended pushbutton, replacement operator, 5/pk	
PL1308PB-5	Blue	$7.00	22mm illuminated extended pushbutton, replacement operator, 5/pk	
PL1308PN-5	Clear	$7.00	22mm illuminated extended pushbutton, replacement operator, 5/pk	
PL1308PW-5	White	$7.00	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	$3.75	PDF
Blank Plate	Black	ECX1670-B	$3.00	PDF
Blank Plate	Red	ECX1670-R	$3.00	PDF
CLAMP	Black	ECX1670-B24	$3.75	PDF
CLOSE	Black	ECX1670-B01	$3.00	PDF
DOWN	Black	ECX1670-B02	$3.00	PDF
EMERG. STOP	Red	ECX1670-R03	$3.00	PDF
EXTEND	Black	ECX1670-B51	$3.75	PDF
FEEDER OFF	Black	ECX1670-B26	$3.75	PDF
FEEDER ON	Black	ECX1670-B25	$3.75	PDF
FOR OFF REV	Black	ECX1670-B19	$3.00	PDF
FOR-REV	Black	ECX1670-B13	$3.00	PDF
FORWARD	Black	ECX1670-B04	$3.00	PDF
GRIP	Black	ECX1670-B53	$3.75	PDF
HAND-AUTO	Black	ECX1670-B14	$3.00	PDF
HAND OFF AUTO	Black	ECX1670-B20	$3.00	PDF
HIGH	Black	ECX1670-B27	$3.75	PDF
HIGH LOW	Black	ECX1670-B43	$3.75	PDF
IN	Black	ECX1670-B28	$3.75	PDF
INCH	Black	ECX1670-B29	$3.75	PDF
JOG	Black	ECX1670-B05	$3.00	PDF
JOG FOR	Black	ECX1670-B30	$3.75	PDF
JOG REV	Black	ECX1670-B31	$3.75	PDF
JOG-RUN	Black	ECX1670-B15	$3.00	PDF
LOW	Black	ECX1670-B32	$3.75	PDF
LOWER	Black	ECX1670-B33	$3.75	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	$3.75	PDF
MAN OFF AUTO	Black	ECX1670-B47	$3.75	PDF
MOTOR RUN	Black	ECX1670-B22	$3.00	PDF
MOTOR STOP	Black	ECX1670-B23	$3.00	PDF
OFF	Black	ECX1670-B34	$3.75	PDF
OFF-ON	Black	ECX1670-B16	$3.00	PDF
ON	Black	ECX1670-B06	$3.00	PDF
OPEN	Black	ECX1670-B07	$3.00	PDF
OPEN OFF CLOSE	Black	ECX1670-B48	$3.75	PDF
OPEN-CLOSE	Black	ECX1670-B17	$3.00	PDF
OUT	Black	ECX1670-B35	$3.75	PDF
POWER ON	Black	ECX1670-B21	$3.00	PDF
PULL ON PUSH OFF	Black	ECX1670-B50	$3.75	PDF
RAISE	Black	ECX1670-B36	$3.75	PDF
READY	Black	ECX1670-B37	$3.75	PDF
RELEASE	Black	ECX1670-B54	$3.75	PDF
RESET	Black	ECX1670-B38	$3.75	PDF
RETRACT	Black	ECX1670-B52	$3.75	PDF
REVERSE	Black	ECX1670-B08	$3.00	PDF
RUN	Black	ECX1670-B09	$3.00	PDF
SAFE RUN	Black	ECX1670-B45	$3.75	PDF
START	Black	ECX1670-B10	$3.00	PDF
STOP	Black	ECX1670-B11	$3.00	PDF
STOP	Red	ECX1670-R11	$3.00	PDF
TEST	Black	ECX1670-B39	$3.75	PDF
TRANSFER	Black	ECX1670-B40	$3.75	PDF
TRIP	Black	ECX1670-B41	$3.75	PDF
UNCLAMP	Black	ECX1670-B42	$3.75	PDF
UP	Black	ECX1670-B12	$3.00	PDF
UP OFF DOWN	Black	ECX1670-B49	$3.75	PDF
UP-DOWN	Black	ECX1670-B18	$3.00	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**	$3.75	PDF
Blank Plate	Red	**ECX1690-R**	$3.75	PDF
EMERG. STOP	Red	**ECX1690-R03**	$3.75	PDF
HAND-OFF-AUTO	Black	**ECX1690-B20**	$3.75	PDF
JOG	Black	**ECX1690-B05**	$3.75	PDF
OFF-ON	Black	**ECX1690-B16**	$3.75	PDF
OPEN-CLOSE	Black	**ECX1690-B17**	$3.75	PDF
POWER ON	Black	**ECX1690-B21**	$3.75	PDF
START	Black	**ECX1690-B10**	$3.75	PDF
STOP	Red	**ECX1690-R11**	$3.75	PDF

Note: Legend plate text is 3mm in height

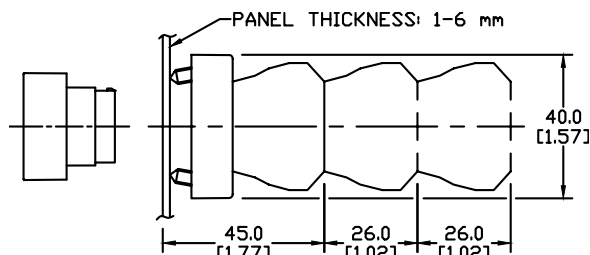# GCX Series 22mm Plastic Pilot Devices Specifications

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.
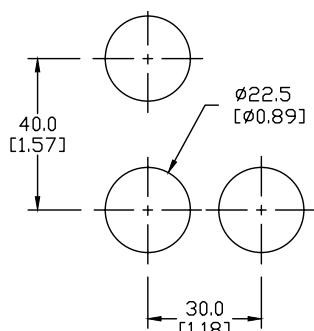
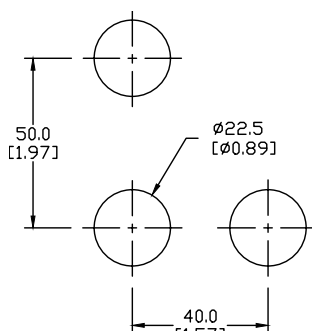## Dimensions

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

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.
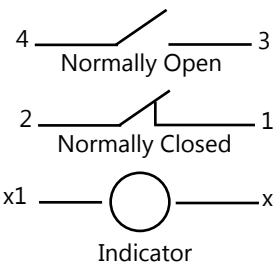
50.0 [1.97]

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	IP40 for GCX3151-24, GCX3151-120, GCX3153-24 and GCX3153-120. IP65 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