

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	\$13.50	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	\$13.50	22mm plastic selector switch, key-operated, two-position spring-return from right . One N.O. contact block. Replacement keys available
GCX3470-22	\$20.00	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

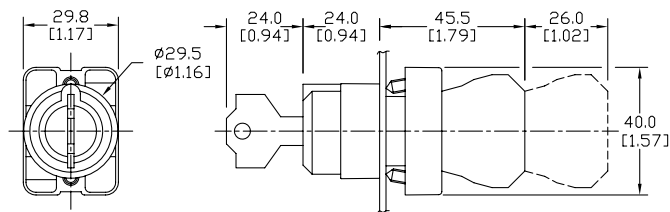


Note: Keyed switches come with two keys. All plastic 22mm keyed switches are keyed the same. Replacement keys are available. Order part no. ECX1067-2 (pkg. of 2). Keys for plastic 22mm keyed switches are not compatible with Cutler-Hammer key switches.



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]



Two-position selector switches

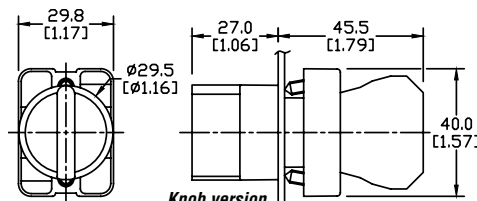


GCX3300
 Knob version

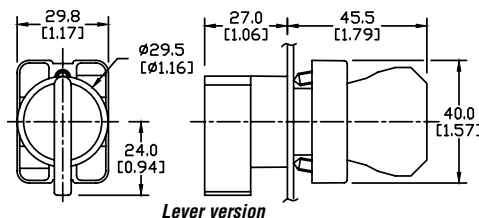


GCX3350
 Lever version

Part Number	Price	Description - 2-Position Switches
GCX3300	\$7.25	22mm plastic selector switch, two-position maintained , black knob. One N.O. contact block
GCX3310	\$8.00	22mm plastic selector switch, two-position spring-return from right , black knob. One N.O. contact block
GCX3350	\$8.00	22mm plastic selector switch, two-position maintained , black lever. One N.O. contact block
GCX3360	\$8.50	22mm plastic selector switch, two-position spring-return from right , black lever. One N.O. contact block



Dimensions: mm [inches]



Contact Closure Sequence for Two-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



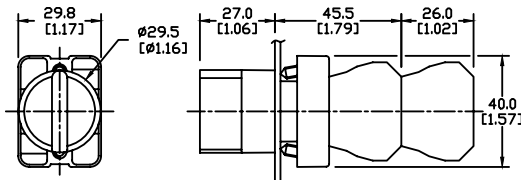
GCX3370-22 Lever version

Part Number	Price	Description - 3-Position Switches
GCX3320-22	\$14.00	22mm plastic selector switch, three-position maintained , black knob, Two N.O. and two N.C. contact blocks
GCX3330-22	\$14.50	22mm plastic selector switch, three-position spring-return to center , black knob, Two N.O. and two N.C. contact blocks
GCX3370-22	\$14.50	22mm plastic selector switch, three-position, maintained , black lever, Two N.O. and two N.C. contact blocks
GCX3380-22	\$15.00	22mm plastic selector switch, three-position spring-return to center , black lever, Two N.O. and two N.C. contact blocks

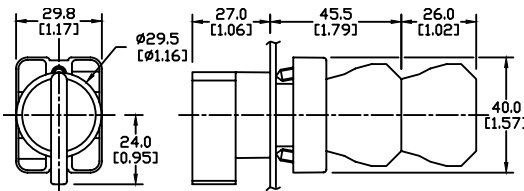


Note: When using switches having two-deep contact blocks with the 22mm plastic enclosures, be sure to use enclosures that are 74 mm deep; 51 mm-deep enclosures are too shallow and the switch body will not fit.

Dimensions: mm [inches]



Knob version



Lever version

Contact Closure Sequence for Three-Position Switch

Contact Closure Sequence - 3-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 3: 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	\$8.50	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 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	\$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		
ECX1922-2	Green		\$19.50		
ECX1923-2	Yellow		\$15.50		
ECX1924-2	Blue		\$21.00		
ECX1925-2	White		\$25.00		

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



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	\$6.50	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		\$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	

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



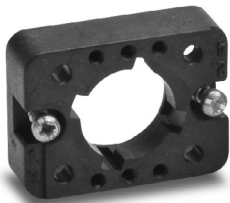
ECX1067-2

Replacement Keys			
Part Number	Quantity	Price	Description
ECX1067-2	Pkg of 2	\$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.

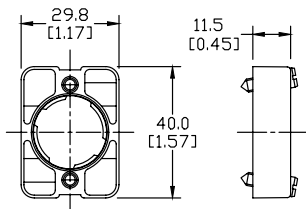
Note: All key-actuated 22mm plastic selector switches are keyed alike.

22mm Plastic Pilot Device Accessories

Replacement 22mm support base



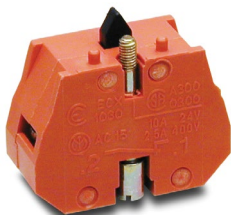
ECX3029-2



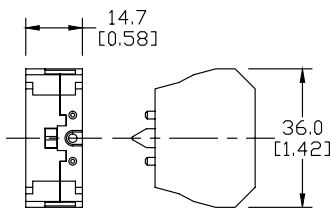
Dimensions: mm [inches]

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. Will not work 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	\$6.25	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	\$15.00		
ECX1040-2	Pkg of 2	\$6.25	Green, normally-open (N.O.)	Note: Will not work with Cutler-Hammer 22mm switches sold by AUTOMATIONDIRECT
ECX1040-5	Pkg of 5	\$15.00		
ECX1042-2	Pkg of 2	\$6.25	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	\$14.50	22mm 2-position selector switch illuminated short lever replacement operator, 5/pkg	Part numbers starting with GCX124, GCX125, GCX324, GCX325
GR1172PV-5	Green	\$14.50	22mm 2-position selector switch illuminated short lever replacement operator, 5/pkg	
GR1172PG-5	Yellow	\$14.50	22mm 2-position selector switch illuminated short lever replacement operator, 5/pkg	
GR1172PB-5	Blue	\$14.50	22mm 2-position selector switch illuminated short lever replacement operator, 5/pkg	
GR1172PN-5	Clear	\$14.50	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	\$14.50	22mm 3-position selector switch illuminated short lever replacement operator, 5/pk	Part numbers starting with GCX126, GCX128, GCX326, GVX328
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	

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	

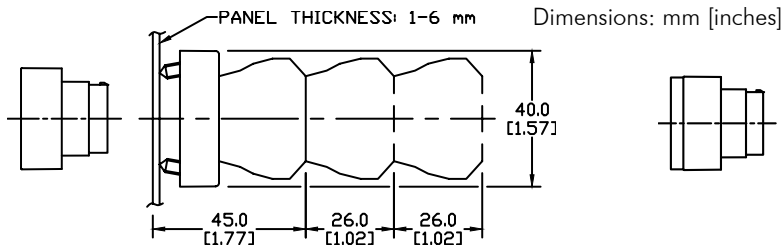
Note: All dimensions are in inches [millimeters].

GCX Series 22mm Plastic Pilot Devices Specifications

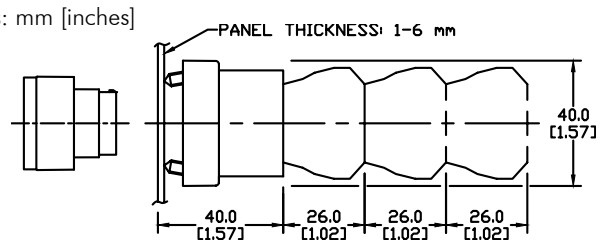
Assembly information

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.

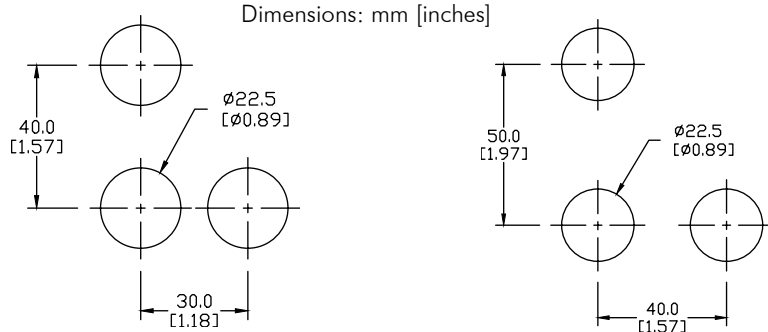
Pushbuttons and selector switches



Illuminated pushbuttons and selector switches/indicator lights

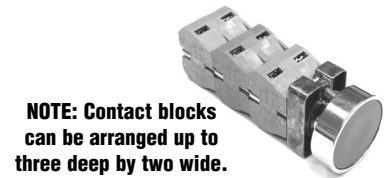


Mounting



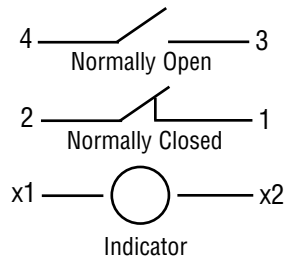
This layout is suitable if all switches are 230V or less and the same polarity.

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	
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

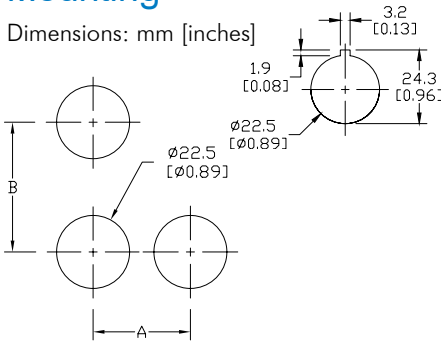
*Note: Recommended, not supplied

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

EAT•N E22 Mounting / NEMA Cutler-Hammer Aux Contact Ratings

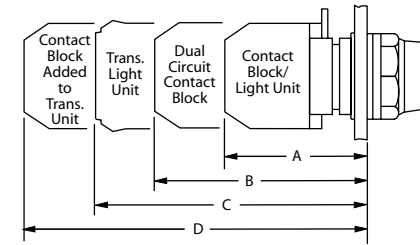
Mounting

Dimensions: mm [inches]



Back-of-panel extensions

Note: This view is to show dimensions only. Contact blocks are not stackable.

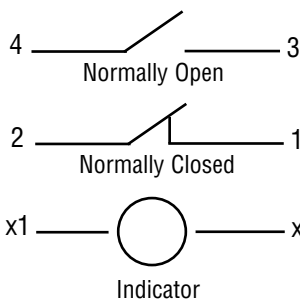


Minimum Spacing — mm [inches]		
Size/Type of Operator	Dimensions	
	A	B
All types up to 30 (1.18) dia. including knob and key operated selector switches — except those listed below	30 (1.18)	50 (1.97)
Three-way adapter		
50 (1.97) dia. operators	55 (2.16)	55 (2.16)
Large yellow round legend plate - 70 (2.76) diameter	75 (2.95)	50 (1.97)

Approximate Dimensions — mm [inches]			
A	B	C	D
Single circuit block — full voltage and resistor units	Dual circuit contact block	Transformer light unit	Transformer light unit and single circuit contact block
Pushbuttons (All Types and Push-Pull)			
51 [2.0]	66 (2.6)	74 (2.91)	94 (3.7)
Key and Knob Selector Switches			
57 [2.2]	72 (2.83)	80 (3.15)	99 (3.9)

Control Circuit Contact Electrical Ratings and Wiring

Typical Wiring



NEMA Mechanical Switching Ratings and Test Values for DC Control Circuit Contacts					
Contact Rating Designation	Thermal Continuous Test Current (A)	Maximum Make or Break DC Current (A)			Volt amperes
		125 Volts	250 Volts	301 to 600 Volts	
P300	5.0	1.1	0.55	---	138
P600	5.0	1.1	0.55	0.20	138
Q300	2.5	0.55	0.27	---	69
Q600	2.5	0.55	0.27	0.10	69
R300	1.0	0.22	0.11	---	28

This chart is provided as a guideline only, and the ratings and values are not guaranteed to be accurate. It is the users' responsibility to properly size their control circuit devices. The chart values are from NEMA Standard ICS 5-2000, Table 1-4-2.

NEMA Mechanical Switching Ratings and Test Values for AC Control Circuit Contacts											
Contact Rating Designation	Thermal Continuous Test Current (A)	Maximum AC Current, 50/60Hz (A)								Volt amperes	
		120 Volts		240 Volts		480 Volts		600 Volts			
		Make	Break	Make	Break	Make	Break	Make	Break	Make	Break
A300	10	60	6.00	30	3.00	---	---	---	---	7200	720
A600	10	60	6.00	30	3.00	15	1.50	12	1.20	7200	720
B300	5	30	3.00	15	1.50	---	---	---	---	3600	360
B600	5	30	3.00	15	1.50	7.5	0.75	6	0.60	3600	360
C600	2.5	15	1.5	7.5	0.75	3.75	0.375	3.00	0.30	1800	180

This chart is provided as a guideline only, and the ratings and values are not guaranteed to be accurate. It is the users' responsibility to properly size their control circuit devices. The chart values are from NEMA Standard ICS 5-2000, Table 1-4-1.