

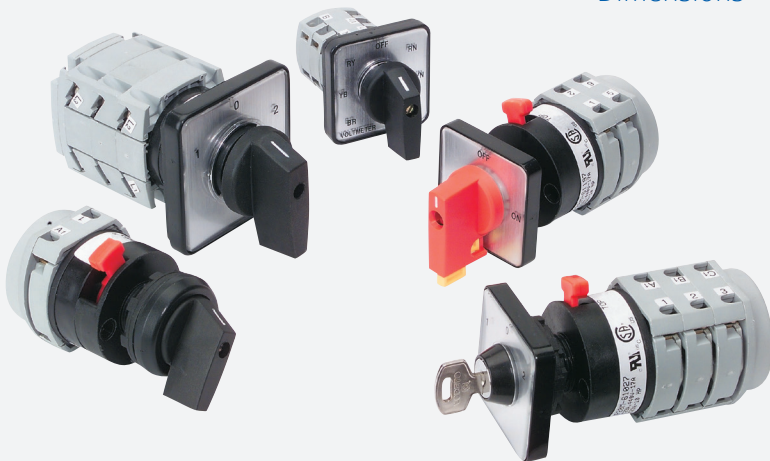
CAM SWITCHES



Looking for cam-operated rotary switches for On/Off, Changeover, Ammeter, Voltmeter and Motor-Reversing control and load break applications? c3controls has a full line of reliable switches featuring modular operating handles that can be mixed-and-matched with any switch. A very broad product offering that is easy to install.

Section 17

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PROVEN



Conformity to Standards:

UL 508
 CSA C22.2 No. 14
 IEC 60947-1, 60947-3,
 60947-5-1

Certifications:


UL File #: E187641 (Guide NLRV, NLRV7)
 CE Marked (per EU Low Voltage Directive 2006/95/EC and
 RoHS Directive 2011/65/EU)

Visit www.c3controls.com to download product certifications.

CAM SWITCHES

c3controls offers a comprehensive line of Cam Switches, just one example of our superior products designed and manufactured to meet the needs of the machine builder. Check out all the features of our Series CS below!

ENGINEERED TO PERFORM AND SAVE VALUABLE INSTALLATION TIME.

✓ Proven	Our cam switch operators meet UL, CSA, and IEC standards requirements making them suitable for use in global applications. 
✓ Simple Customization	Round operator without front plate is available for use with standard and custom legend plates for simple and convenient customization.
✓ Fast Wiring	Combination head terminal screws which include captive terminal clamps and our clearly marked terminals make wiring fast and easy.
✓ Multiple Variations	Available in 45°, 60°, and 90° switching angles, and up to 6 positions for multiple variations.
✓ Variety of Applications	Rated from 10A to 32A up to 690V AC with various operator types, including key lock, lever, and lockable lever for use in all your applications.
✓ Heavy-Duty	High-grade engineering plastics like nylon, celcon, and glass filled polyamide provide outstanding mechanical strength and electrical insulating properties.
✓ Clear Markings	Markings are integral to the front plate and protected so they won't wear off over time.
✓ Visible Certifications	Our product certifications and electrical ratings are clearly marked on the outside of the operators for easy reference during installation.
✓ Convenient	Cam switches offer the convenience of a single part number, making it easy to find what you need.
✓ Advanced Safety	Switches are available with IP20 guarded terminals to protect against accidental contact with live parts.
✓ Limited Lifetime Warranty*	Every product is backed by our limited lifetime warranty—unmatched in the industry—bringing you quality components that perform in the most demanding applications.
✓ Guaranteed Same-Day Shipping*	Product availability reduces inventory, and improves cash-flow—saving you money. With c3controls any order for standard catalog items received by 6:00pm ET is guaranteed to ship same-day.
✓ Advantage Pricing	Our approach to product development, manufacturing, and focus on servicing the OEM and Electrical Equipment Builder reduces cost. The result—the best value in the industry.

*See c3controls Terms & Conditions

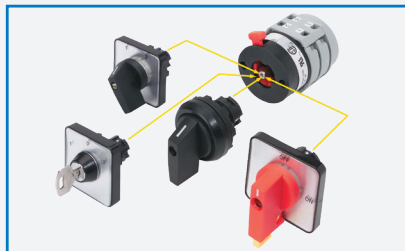
“We at Mahlkuch Electric have used c3controls since 2006 and c3controls products haven't let us down yet. We get great customer support, product delivered when we need them, and all for a fair price. Plus, because we've never had an in-field failure with their products, we never have to worry about middle of the night service calls. Thanks for helping this contractor sleep a little easier at night.”

Jeff Mahlkuch, Owner • **Mahlkuch Electric, LLC**



UNIQUE PRODUCT LINE FEATURES

REDUCED INVENTORY



A wide variety of operators can be “mixed-and-matched” with different switch types to reduce inventory requirements and customize the switch appearance.

EASY INSTALLATION



Operators mount in a standard 22.5mm hole. The latching mechanism allows the switch to be easily wired outside the control panel and then securely installed on the mounted operator.

PADLOCKABLE SWITCH



Operators can be locked OFF with a padlock or key switch to prevent unauthorized operation of switch.

MANUAL MOTOR CONTROLLERS



Certified as Manual Motor Controllers per UL standards requirements.

**FIND IT
FAST**

CAM Switches



- Certifications
- Specifications
- Dimension Drawings
- Installation Instructions
- Easy to Buy

www.c3controls.com

IT'S EASY TO BUILD YOUR OWN CAM SWITCH

Simply pick the code number from each of the sections below and combine them to build your part number.

On-Off Cam Switches

CS [] - [] - [] [] [] [] []
I II III IV V VI VII

Example: To build one of our most popular Cam Switches, the part number would be **CS + II + III + IV + V + VI + VII** or **CS11003-G16-L22LBAA61**



I. BASIC CAM SWITCH

CODE	DESCRIPTION
CS	Cam Switch

SEE PAGES 11 & 12 FOR SPECIFICATIONS, PAGE 13 FOR OPERATOR PLATE MARKINGS AND CONNECTING DIAGRAMS, AND PAGE 14 FOR DIMENSIONS.

V. OPERATOR TYPE

CODE	DESCRIPTION
(Blank)	Key Lock (For use with K22 only)
L	Lever

II. SWITCH CONFIGURATION / III. CURRENT RATING

CODE	DESCRIPTION	NO. OF STAGES	G16	G25	G32
			16 AMP IP20 TERMINALS	25 AMP IP20 TERMINALS	32 AMP IP20 TERMINALS
MAINTAINED 60° (A61)					
11001	1 Pole	1	\$28.00	\$38.00	\$46.00
11002	2 Poles	1	\$31.00	\$42.00	\$52.00
11003	3 Poles	2	\$41.00	\$56.00	\$68.00
11004	4 Poles	2	\$45.00	\$61.00	\$73.00
11005	5 Poles	3	\$55.00	\$76.00	\$90.00
11006	6 Poles	3	\$58.00	\$80.00	\$95.00
MAINTAINED 90° (A91/B93)					
11191	1 Pole	1	\$28.00	\$38.00	\$46.00
11192	2 Poles	1	\$31.00	\$42.00	\$58.00
11199	3 Poles	2	\$41.00	\$56.00	\$68.00
11194	4 Poles	2	\$45.00	\$61.00	\$73.00
11906	6 Poles	3	\$58.00	\$80.00	\$95.00

VI. OPERATOR COLOR

CODE	OPERATOR COLOR	FRONT PLATE COLOR	FOR INSTALLATION CODE
RY	Red	Yellow	L22, P22
BB	Black	Black	L22
BG	Black	Grey	L22
BA	Black	Aluminum	L22, K22
BN	Black	—	N22
RN	Red	—	N22

IV. INSTALLATION

CODE	DESCRIPTION	FOR CURRENT RATING CODES	LIST
L22	48mm x 48mm Front Plate	G16, G25, G32	\$ 10.00
N22	Round Ring (no front plate)	G16, G25, G32	\$ 8.90
NOTE: See pages 9 & 10 for legend plate options.			
P22	48mm x 48mm Front Plate – Lockable	G16, G25, G32	\$ 11.50
K22	48mm x 48mm Front Plate – Key Lock	G16, G25, G32	\$ 19.00
NOTE: Available for any maintained 90° switch.			

VII. OPERATOR PLATE MARKING

CODE	DESCRIPTION	FOR INSTALLATION CODE
A61	OFF-ON (60°)	L22, P22
A91	OFF-ON (90°)	L22, P22
B93	OFF-ON, Key Removal in all Positions (90°)	K22
(Blank)	—	N22

Unit mounts in a single 22.5mm (7/8") hole.



SOME OF OUR POPULAR CONFIGURATIONS:

ON-OFF CAM SWITCHES

CATALOG NUMBER	DESCRIPTION	LIST
CS11192-G16-P22LRYA91	16A, 2 Pole, Maintained 90°, 48mm x 48mm Red/Yellow Lever "OFF-ON" Front Plate	\$ 42.00
CS11002-G25-L22LBAA61	25A, 2 Pole, Maintained 60°, 48mm x 48mm Black/Aluminum Lever "OFF-ON" Front Plate	\$ 52.00

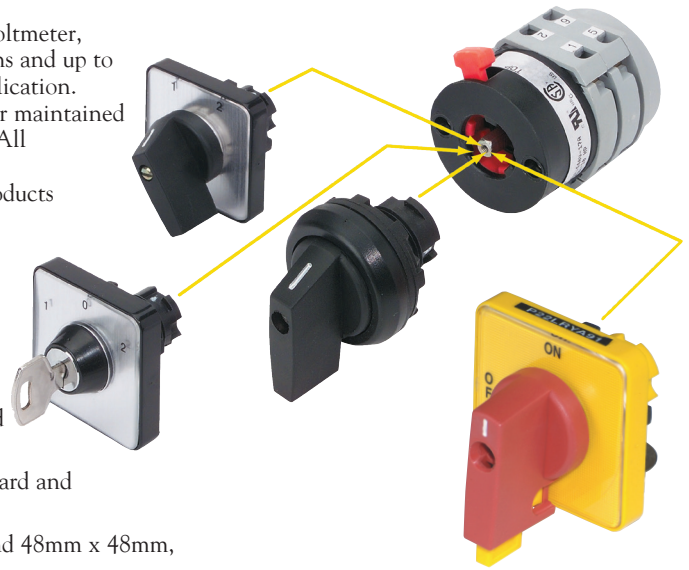
SEE BOTTOM OF PAGE 5 FOR OPERATOR AND CAM SWITCH OPTIONS.

CAM SWITCHES

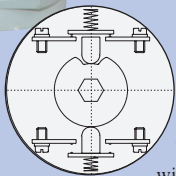
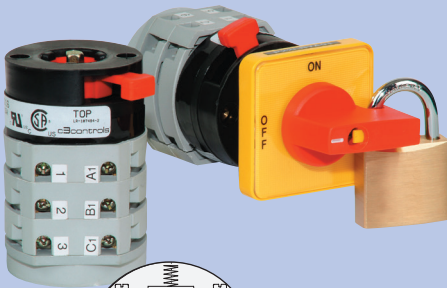
c3controls compact, easy to install On-Off, Changeover, Ammeter, Voltmeter, and Motor Reversing Cam Switches are available with up to 6 positions and up to 6 poles — a solution for almost any control and load break switch application. They are certified as Manual Motor Controllers per UL standards. Our maintained operators share the same ratings with the addition of the 4/4X rating. All switches are suitable for global applications having met UL, CSA, and IEC standards. c3controls goes the extra step to make sure that our products outlast the competition.

Product features include:

- Rated from 10A to 32A up to 690V AC.
- Available in 60° and 90° switching angles.
- Operators and switches conveniently install in a standard, round 22.5mm (7/8") mounting hole that is directly interchangeable with commonly available pilot devices and other control and load break switches.
- Round operator without front plate is available for use with standard and custom legend plates.
- Front plates are available in two different sizes; 32mm x 32mm and 48mm x 48mm, and come in yellow, grey, black or aluminum.



UNIQUE PRODUCT FEATURES



Cam design provides "Quick-Make — Slow Break" operation with built-in

latching. Two double-break, positive drive to open silver alloy contacts per stage provide long electrical life.

1. High-grade engineering plastics like nylon, celcon, and glass filled polyamide provide outstanding mechanical strength and long life with excellent electrical insulating properties.
2. The simple latching mechanism securely assembles the switch with the operator — the switch can be easily and conveniently wired outside the confined space of the control panel, and then installed on the operator that has already been mounted.
3. A wide variety of operators can be "mixed-and-matched" with different switch types to reduce inventory requirements and customize the switch appearance for every application.
4. Operators can be locked OFF with a padlock or key switch to prevent operation of the switch.
5. Markings are integral to the front plate and protected so they won't wear off over time.
6. IP20 guarded terminals to protect against accidental contact with live parts.
7. Combination head terminal screws include captive terminal clamps for ease of wiring.
8. Clearly marked terminals make wiring fast and easy.

MIX AND MATCH ANY OPERATOR AND CAM SWITCH



S22
Lever



S22
Lever



L22
Lever



N22
Round Ring



P22
Lockable



K22
Key Lock

IT'S EASY TO BUILD YOUR OWN CAM SWITCH

Simply pick the code number from each of the sections below and combine them to build your part number.

Changeover Cam Switches

CS [] - [] - [] [] [] []
I II III IV V VI VII

Example: To build one of our most popular Cam Switches, the part number would be **CS + II + III + IV + V + VI + VII** or **CS21027-G16-K22BAC62**



I. BASIC CAM SWITCH

CODE	DESCRIPTION
CS	Cam Switch

SEE PAGES 11 & 12 FOR SPECIFICATIONS, PAGE 13 FOR OPERATOR PLATE MARKINGS AND CONNECTING DIAGRAMS, AND PAGE 14 FOR DIMENSIONS.

V. OPERATOR TYPE

CODE	DESCRIPTION
(Blank)	Key Lock (For use with K22 only)
L	Lever

II. SWITCH CONFIGURATION / III. CURRENT RATING

CODE	DESCRIPTION	NO. OF STAGES	G16	G25	G32
			16 AMP IP20 TERMINALS	25 AMP IP20 TERMINALS	32 AMP IP20 TERMINALS
WITH OFF POSITION, MAINTAINED 60° (B61, C62)					
21025	1 Pole	1	\$ 29.00	\$ 39.00	\$ 47.00
21026	2 Poles	2	\$ 41.00	\$ 56.00	\$ 67.00
21027	3 Poles	3	\$ 53.00	\$ 73.00	\$ 87.00
21028	4 Poles	4	\$ 66.00	\$ 91.00	\$ 107.00
21029	5 Poles	5	\$ 78.00	\$ 108.00	\$ 127.00
21030	6 Poles	6	\$ 90.00	\$ 125.00	\$ 146.00

VI. OPERATOR COLOR

CODE	OPERATOR COLOR	FRONT PLATE COLOR	FOR INSTALLATION CODE
RY	Red	Yellow	L22
BB	Black	Black	L22
BG	Black	Grey	L22
BA	Black	Aluminum	L22, K22
BN	Black	—	N22
RN	Red	—	N22

IV. INSTALLATION

CODE	DESCRIPTION	FOR CURRENT RATING CODES	LIST
L22	48mm x 48mm Front Plate	G16, G25, G32	\$ 10.00
N22	Round Ring (no front plate)	G16, G25, G32	\$ 8.90
NOTE: See pages 9 & 10 for legend plate options.			
K22	48mm x 48mm Front Plate – Key Lock	G16, G25, G32	\$ 19.00

VII. OPERATOR PLATE MARKING

CODE	DESCRIPTION	FOR INSTALLATION CODE
B61	1-0-2 (60°)	L22
C62	1-0-2, Key Removal in OFF Position (60°)	K22
(Blank)	—	N22

Unit mounts in a single 22.5mm (7/8") hole.



SOME OF OUR POPULAR CONFIGURATIONS:

CHANGEOVER CAM SWITCHES		
CATALOG NUMBER	DESCRIPTION	LIST
CS21028-G16-L22LBGB61	16A, 4 Pole, Maintained 60°, 48mm x 48mm Black/Grey Lever "1-0-2" Front Plate	\$ 76.00
CS21026-G25-L22LRYB61	25A, 2 Pole, Maintained 60°, 48mm x 48mm Red/Yellow Lever "1-0-2" Front Plate	\$ 66.00

SEE BOTTOM OF PAGE 5 FOR OPERATOR AND CAM SWITCH OPTIONS.

IT'S EASY TO BUILD YOUR OWN CAM SWITCH

Simply pick the code number from each of the sections below and combine them to build your part number.

Ammeter and Voltmeter Cam Switches

CS - - **L**

I *II* *III* *IV* *V* *VI* *VII*

Example: To build one of our most popular Cam Switches, the part number would be **CS + II + III + IV + L + VI + VII** or **CS41313-G16-L22LBAZ4313**



I. BASIC CAM SWITCH

CODE	DESCRIPTION
CS	Cam Switch

SEE PAGES 11 & 12 FOR SPECIFICATIONS, PAGE 13 FOR OPERATOR PLATE MARKINGS AND CONNECTING DIAGRAMS, AND PAGE 14 FOR DIMENSIONS.

V. OPERATOR TYPE

CODE	DESCRIPTION
L	Lever

II. SWITCH CONFIGURATION / III. CURRENT RATING

CODE	DESCRIPTION	NO. OF STAGES	G10	G16
			10 AMP IP20 TERMINALS	16 AMP IP20 TERMINALS
VOLTMETER WITH OFF POSITION				
41312	3-Phase Line to Line	2	\$ 32.00	\$ 50.00
41313	3-Phase Line to Line and Line to Neutral	3	\$ 48.00	\$ 65.00
AMMETER WITH OFF POSITION				
42325	1 Pole – 3 Transformer	3	\$ 48.00	—

VI. OPERATOR COLOR

CODE	OPERATOR COLOR	FRONT PLATE COLOR	FOR INSTALLATION CODE
BB	Black	Black	S22, L22
BG	Black	Grey	S22, L22
BA	Black	Aluminum	S22, L22
BN	Black	—	N22

IV. INSTALLATION

CODE	DESCRIPTION	FOR CURRENT RATING CODES	LIST
S22	32mm x 32mm Front Plate	G10	\$ 8.60
L22	48mm x 48mm Front Plate	G16	\$ 10.00
N22	Round Ring (no front plate) NOTE: See pages 9 & 10 for legend plate options.	G16	\$ 8.90

VII. OPERATOR PLATE MARKING

CODE	DESCRIPTION	FOR USE WITH SWITCH CODE	FOR INSTALLATION CODE
VOLTMETER			
Z9312	OFF-RY-YB-BR (90°)	41312	S22, L22
Z4313	OFF-RN-YN-BN-BR-YB-RY (45°)	41313	S22, L22
(Blank)	—	—	N22
AMMETER			
Z9325	OFF-R-Y-B (90°)	42325	S22

Unit mounts in a single 22.5mm (7/8") hole.



SOME OF OUR POPULAR CONFIGURATIONS:

AMMETER AND VOLTMETER CAM SWITCHES

CATALOG NUMBER	DESCRIPTION	LIST
CS42325-G10-S22LBGZ9325	10A, 1 Pole – 3 Transformer Ammeter Switch, 32mm x 32mm Black/Grey Lever "OFF-R-Y-B" Front Plate	\$ 56.60
CS41313-G16-L22LBAZ4313	16A, 3 Phase Line to Line and Line to Neutral Voltmeter Switch, 48mm x 48mm Black/Aluminum Lever "OFF-RN-YN-BN-BR-YB-RY" Front Plate	\$ 75.00

SEE BOTTOM OF PAGE 5 FOR OPERATOR AND CAM SWITCH OPTIONS.

IT'S EASY TO BUILD YOUR OWN CAM SWITCH

Simply pick the code number from each of the sections below and combine them to build your part number.

Motor Reversing Cam Switches

CS [] - [] - [] **L** [] [] []
I II III IV V VI VII

Example: To build one of our most popular Cam Switches, the part number would be **CS + II + III + IV + L + VI + VII** or **CS51211-G25-L22LBAB61**



I. BASIC CAM SWITCH

CODE	DESCRIPTION
CS	Cam Switch

SEE PAGES 11 & 12 FOR SPECIFICATIONS, PAGE 13 FOR OPERATOR PLATE MARKINGS AND CONNECTING DIAGRAMS, AND PAGE 14 FOR DIMENSIONS.

V. OPERATOR TYPE

CODE	DESCRIPTION
L	Lever

II. SWITCH CONFIGURATION / III. CURRENT RATING

CODE	DESCRIPTION	NO. OF STAGES	G16	G25	G32
			16 AMP IP20 TERMINALS	25 AMP IP20 TERMINALS	32 AMP IP20 TERMINALS
51210	Motor Reversing, 2 Poles	2	\$ 50.00	\$ 68.00	\$ 82.00
51211	Motor Reversing, 3 Poles	3	\$ 65.00	\$ 90.00	\$ 106.00

VI. OPERATOR COLOR

CODE	OPERATOR COLOR	FRONT PLATE COLOR	FOR INSTALLATION CODE
RY	Red	Yellow	L22
BB	Black	Black	L22
BG	Black	Grey	L22
BA	Black	Aluminum	L22
BN	Black	—	N22
RN	Red	—	N22

IV. INSTALLATION

CODE	DESCRIPTION	FOR CURRENT RATING CODES	LIST
L22	48mm x 48mm Front Plate	G16, G25, G32	\$ 10.00
N22	Round Ring (no front plate)	G16, G25, G32	\$ 8.90

NOTE: See pages 9 & 10 for legend plate options.

VII. OPERATOR PLATE MARKING

CODE	DESCRIPTION	FOR INSTALLATION CODE
B61	1-0-2 (60°)	L22
(Blank)	—	N22

Unit mounts in a single 22.5mm (7/8") hole.



SOME OF OUR POPULAR CONFIGURATIONS:

MOTOR REVERSING CAM SWITCHES

CATALOG NUMBER	DESCRIPTION	LIST
CS51211-G16-L22LBAB61	16A, 3 Poles, 48mm x 48mm Black/Aluminum Lever "1-0-2" Front Plate	\$ 75.00
CS51210-G25-N22LRN	25A, 2 Poles, No Front Plate, Red Round Ring Lever	\$ 76.90
CS51211-G32-L22LBAB61	32A, 3 Poles, 48mm x 48mm Black/Aluminum Lever "1-0-2" Front Plate	\$ 116.00

SEE BOTTOM OF PAGE 5 FOR OPERATOR AND CAM SWITCH OPTIONS.

IT'S EASY TO BUILD YOUR OWN LEGEND PLATE

Simply pick the code number from each of the sections below and combine them to build your part number.

Legend Plates (for N22 Round Ring Operators Only)



All legend plates are a 2-ply laminated plastic, laser engraved for a permanent and quality appearance. Uppercase is standard unless specified.



I. LEGEND PLATE TYPE		
CODE	DESCRIPTION	LIST
CSLP	Standard 1-3/4" h x 1-3/4" w	\$ 4.00
CSLPT	Tall 2" h x 1-3/4" w	\$ 5.00
CSLPJ	Jumbo 2" h x 2" w	\$ 5.00
CSLPR	Standard Round 2-25/64" Dia.	\$ 9.00
CSLPRM	Medium Round 2-3/4" Dia.	\$11.00
CSLPRJ	Jumbo Round 3-3/4" Dia.	\$12.00

Legend plates feature 1 or 2 lines of text with approximately 16 characters per line.

II. FACE AND LETTER COLOR		
CODE	FACE COLOR	LETTER COLOR
AL	Aluminum	Black
(Blank)	Black	White
BE	Blue	White
GN	Green	White
RD	Red	White
WE	White	Black
YW	Yellow	Black

III. LEGEND DESIGNATION			
CODE	LEGEND LEFT	LEGEND CENTER	LEGEND RIGHT
00	(Blank)	(Blank)	(Blank)
81	FWD	AUTO	REV
89	OFF	RUN	START
85	OFF	START	RUN
86	OFF	1	2
88	1	2	3

NOT FINDING WHAT YOU NEED IN A STANDARD PLATE?
We offer Special and Custom Engraving up to 304.8mm x 609.6mm (12" x 24"). Consult factory or see page 10 for details.

While our standard legend plates are available for same day shipping, our special and custom legend plates are not.



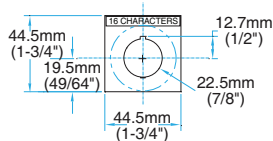
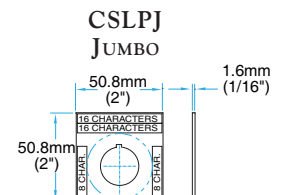
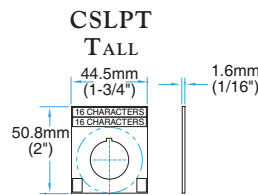
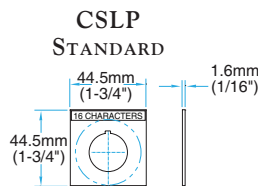
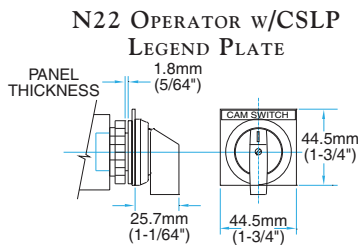
Legend plates for use with N22 Round Ring Operators.

IV. ADHESIVE BACK	
CODE	DESCRIPTION
(Blank)	No Adhesive Back
A	Adhesive Back



SOME OF OUR POPULAR CONFIGURATIONS:

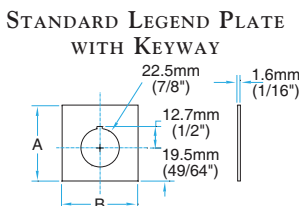
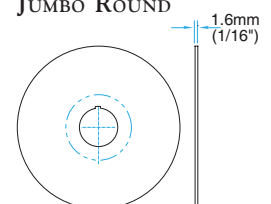
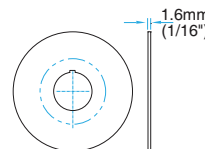
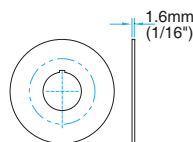
LEGEND PLATES		
CATALOG NO.	DESIGNATION	LIST
CSLPAL-88	1 2 3	\$ 4.00
CSLPAL-89	OFF RUN START	\$ 4.00
CSLPAL-86	OFF 1 2	\$ 4.00



CSLPR STANDARD ROUND

CSLPRM MEDIUM ROUND

CSLPRJ JUMBO ROUND



IT'S EASY TO BUILD YOUR OWN LEGEND PLATE

Simply pick the code number from each of the sections below and combine them to build your part number.

Special Legend Plates (for N22 Round Ring Operators Only)



All legend plates are a 2-ply laminated plastic, laser engraved for a permanent and quality appearance. Uppercase is standard unless specified.



I. LEGEND PLATE TYPE

CODE	DESCRIPTION	LIST
CSLP	Standard 1-3/4" h x 1-3/4" w	\$ 4.00
CSLPT	Tall 2" h x 1-3/4" w	\$ 5.00
CSLPJ	Jumbo 2" h x 2" w	\$ 5.00
CSLPR	Standard Round 2-25/64" Dia.	\$ 9.00
CSLPRM	Medium Round 2-3/4" Dia.	\$11.00
CSLPRJ	Jumbo Round 3-3/4" Dia.	\$12.00

Legend Plates feature 2 lines of text with approximately 16 characters per line.

II. FACE AND LETTER COLOR

CODE	FACE COLOR	LETTER COLOR
AL	Aluminum	Black
(Blank)	Black	White
BE	Blue	White
GN	Green	White
RD	Red	White
WE	White	Black
YW	Yellow	Black

Upon receipt of your order, legend plates will be set-up as specified and a proof will be sent to you prior to production to ensure accuracy.

To order, submit your drawing to:

Mail: c3controls
Attn: Customer First
PO Box 496
Beaver, PA 15009

Fax: 724.775.5283

Email: legendplates@c3controls.com

To help simplify your order process, templates are available by calling our factory at 724.775.7926 or reference one of the drawings shown on page 9.

Special legend plates are not available for same day shipping.

III. LEGEND DESIGNATION

CODE	DESCRIPTION	LIST
SP	Special Legend	\$14.00

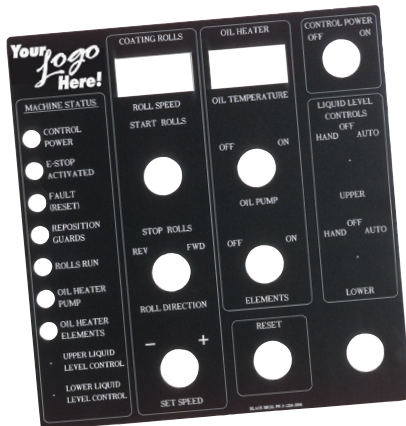
NOTE: \$6.00 each when ordering 3 or more of the same exact legend plate.

IV. ADHESIVE BACK

CODE	DESCRIPTION
(Blank)	No Adhesive Back
A	Adhesive Back

DISCOUNT SCHEDULE

E



(Sample custom plate)

CUSTOM LEGEND PLATES

- **Add your Corporate Logo!** Send us your corporate logo electronically to promote your company image in a clean professional legend plate.
- Available in 2-ply 304.8mm x 609.6mm (12" x 24") sheets of laminated plastic for custom laser engraving.
- To order, specify part number CSLP-CP (no adhesive back) or CSLP-CP-A (adhesive back).
- Initial Set-Up Fee Per Legend Plate: \$50/hour (minimum fee \$50.00).
- \$2.00/Square Inch (minimum \$18.00).
- Design services available. Consult factory for details and hourly rate.
- Custom legend plates are not available for same-day shipping.

To order, submit your drawing to:

Mail: c3controls
Attn: Customer First
PO Box 496
Beaver, PA 15009

Fax: 724.775.5283

Email: legendplates@c3controls.com

SPECIFICATIONS:

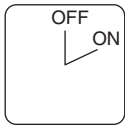
		ELECTRICAL SPECIFICATIONS			
		SWITCH CURRENT RATING CODE			
		G10	G16	G25	G32
ELECTRICAL	UNITS				
UL APPLICATIONS					
Rated Operating Voltage, Ue	VAC	460	600	600	600
Rated Operating Current, Ie	A	10	15	20	30
Rated Three Phase Power, Pe					
@ 240V AC	HP	1	2	5	5
@ 480V AC	HP	2	3	10	10
@ 600V AC	HP	—	5	15	15
Rated Single Phase Power, Pe					
@ 120V AC	HP	1/3	1/3	1	1
@ 240V AC	HP	3/4	1	3	3
Short Circuit Ratings					
With Class J and CC Fuses	kA	1	5	5	5
Maximum Fuse Size	A	10	25	50	50
With Class RK5 Fuses	kA	1	5	5	5
Maximum Fuse Size	A	10	25	50	50
Electrical Endurance at Max. Ie	Ops.	10,000	10,000	10,000	10,000
Maximum Operating Rate	Ops./Hr.	120	120	120	120
IEC APPLICATIONS					
Rated Insulation Voltage, Ui	VAC	440	690	690	690
Rated Isolation Voltage, Uiso	VAC	250	415	415	415
Rated Impulse Voltage, Uimp	kV	4	6	6	6
Rated Operating Voltage, Ue	VAC	440	690	690	690
Rated Uninterrupted Current, Ith	A	12	20	32	40
Rated Operating Current, Ie					
AC-21A	A	10	16	25	32
Rated Three Phase Power, AC-23A, Pe					
@ 220 ~ 240V AC	kW	1.8	3	5.5	7.5
@ 380 ~ 440V AC	kW	3	7.5	11	15
@ 500 ~ 690V AC	kW	—	7.5	11	15
Rated Three Phase Power, AC-3, Pe					
@ 220 ~ 240V AC	kW	1.5	2.2	4	5.5
@ 380 ~ 440V AC	kW	3	5.5	7.5	11
@ 500 ~ 690V AC	kW	—	5.5	7.5	11
Short Circuit Ratings					
With Type gG/gM Fuses	kA	3	5	10	10
Maximum Fuse Size	A	10	16	25	32

MECHANICAL, ENVIRONMENTAL AND CONSTRUCTION SPECIFICATIONS					
		SWITCH CURRENT RATING CODE			
		G10	G16	G25	G32
MECHANICAL					
	UNITS				
Mechanical Endurance	Ops.	100,000			
Maximum Operating Rate	Ops./Hr.	300			
ENVIRONMENTAL					
Ambient Operating Temperature	°C / °F	-25 to +55 / -13 to +131			
Altitude	m/ft.	2,000/6,562			
Ingress Protection					
Switch Type					
Code G		IP20			
Operators	—				
Maintained		Type 1, 3, 3R, 4/4X, 12 and IP65			
Spring Return		Type 1, 3, 3R, 12, and IP65			
CONSTRUCTION					
Conductor Size					
UL	AWG	18 ~ 16	16 ~ 12	16 ~ 12	14 ~ 10
Solid/Multi-Strand	mm ²	0.7 ~ 1.5	1.5 ~ 4	1.5 ~ 4	2.5 ~ 6
Fine Strand with Sleeve	mm ²	0.7 ~ 1.5	1 ~ 2.5	1 ~ 2.5	1.5 ~ 4
Terminal Torque	Nm	0.5 ~ 0.8	0.8 ~ 1.1	1.1 ~ 1.4	1.1 ~ 1.4
	Lb-in.	5 ~ 7	7 ~ 10	10 ~ 12	10 ~ 12
ROHS COMPLIANCE		For RoHS compliance documentation by product, refer to www.c3controls.com			

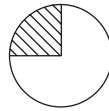
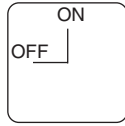
ON-OFF CAM SWITCHES

OPERATOR PLATE MARKINGS

CODE A61



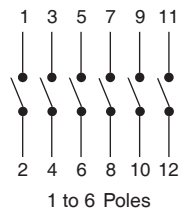
CODES A91 & B93



CONNECTING DIAGRAMS

MAINTAINED 60°, 90°

CODES CS11***



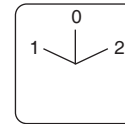
1 to 6 Poles

NOTE: ***Represents the Switch Configuration Code. Refer to page 4.

CHANGEOVER CAM SWITCHES

OPERATOR PLATE MARKINGS

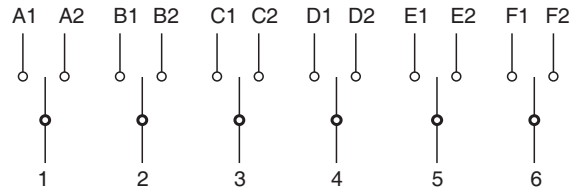
CODES B61 & C62



CONNECTING DIAGRAMS

MAINTAINED 60°

CODES CS21***



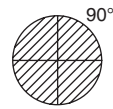
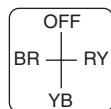
1 to 6 Poles

NOTE: ***Represents the Switch Configuration Code. Refer to page 6.

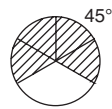
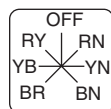
AMMETER AND VOLTMETER CAM SWITCHES

OPERATOR PLATE MARKINGS

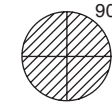
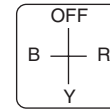
CODE Z9312



CODE Z4313



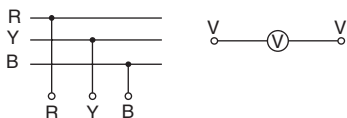
CODE Z9325



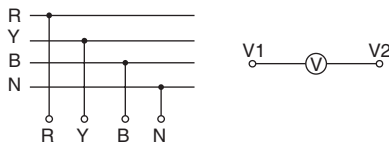
CONNECTING DIAGRAMS

VOLTMETER

CODE 41312

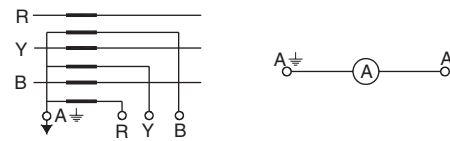


CODE 41313



AMMETER

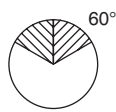
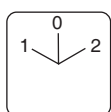
CODE 42325



MOTOR REVERSING CAM SWITCHES

OPERATOR PLATE MARKINGS

CODE B61

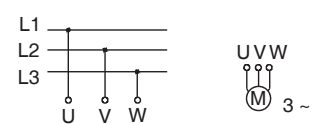


CONNECTING DIAGRAMS

CODE 51210



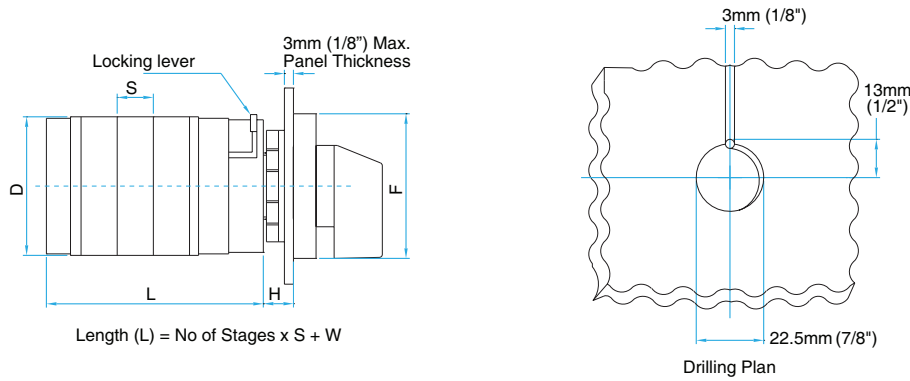
CODE 51211



NOTE:

- U & V are switching
- Position 1 = Reversing and Position 2 = Forward (refers to operator plate markings)

CAM SWITCH & FRONT PLATE INSTALLATION DIMENSIONS

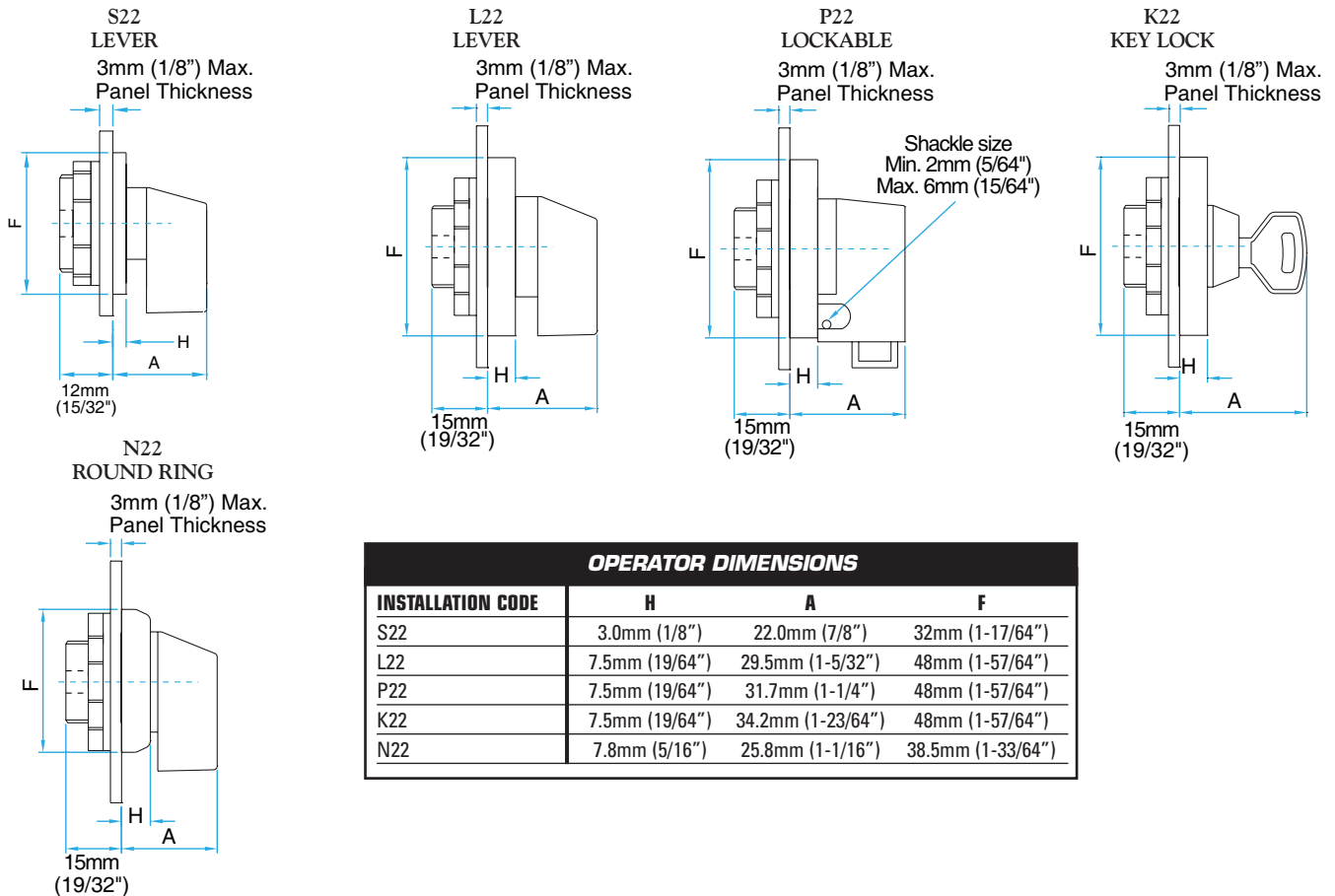


SWITCH & FRONT PLATE INSTALLATION DIMENSIONS

CURRENT RATING CODE	INSTALLATION CODE	S	D	F	H	W
G10	S22	9.5mm (3/8")	33mm (1-19/64")	32mm (1-17/64")	13mm (33/64")	28.5mm (1-1/8")
G16	N22, L22, P22, K22	12mm (15/32")	46mm (1-13/16")	48mm (1-57/64")	15mm (19/32")	37mm (1-15/32")
G25	N22, L22, P22, K22	15mm (19/32")	50mm (1-31/32")	48mm (1-57/64")	15mm (19/32")	37mm (1-15/32")
G32	N22, L22, P22, K22	15mm (19/32")	50mm (1-31/32")	48mm (1-57/64")	15mm (19/32")	37mm (1-15/32")

Length = (No. of Stages) x S + W

OPERATOR DIMENSIONS



INSTALLATION CODE	H	A	F
S22	3.0mm (1/8")	22.0mm (7/8")	32mm (1-17/64")
L22	7.5mm (19/64")	29.5mm (1-5/32")	48mm (1-57/64")
P22	7.5mm (19/64")	31.7mm (1-1/4")	48mm (1-57/64")
K22	7.5mm (19/64")	34.2mm (1-23/64")	48mm (1-57/64")
N22	7.8mm (5/16")	25.8mm (1-1/16")	38.5mm (1-33/64")