



UL508

SERIES VN

**HEAVY DUTY
CAM SWITCHES
25 AMP - 1200 AMP**

**600 Volt & 1000 Volt
Load Make/Load Break
*Positive Opening***

**SERIES VN
IDEAL FOR HEAVY
INDUSTRIAL DUTY**

- Bypass Switch
- Reversing Switch
- Machine Disconnect
- Motor Switch
- Step Switch
- Two Speed Switch
- Ammeter Switch
- Voltmeter Switch
- Custom Versions

**To 12 Pole, 12 Positions
(25 Amp - 20 Poles max)
for AC or DC Applications**



**ELEKTRA CAM SWITCHES
MACHINE SAFETY DISCONNECT OPTION**

FEATURING

- **HANDLE-SHAFT SELF-ALIGNING SYSTEM**
 - IP65 DUSTTIGHT / WATERTIGHT
METAL / NON-METAL ENCLOSURES
 - STEEL SHAFT
 - HORSEPOWER RATED





INDEX SERIES VN



Series VN Cam Switch by Elektra includes one of the most complete Cam Switch product lines available in the world. Elektra, a specialty made switch manufacturer with 75 years experience as a major international supplier, manufactures industrial cam switches and disconnects through 1200 amp, 600 volt and 1000 volt ratings.

GENERAL CONTENTS SERIES VN

- 11 Sizes to 1200 Amp
- 1000 Volt AC, size 400 Amp to 1200 Amp
- 600 Volt AC and DC Ratings
- Multi-Circuit 12 poles
- Multi-Step 12 Positions
- Front Operators, IP65 Dust Tight / Water Tight
- Complete Enclosure Selection - Metal or Non Metal

MAIN POWER SWITCH PRODUCTS:

Series D Disconnects to 1200 Amp with Auto Alignment Operator Handles. Disconnects with Undervoltage Trip.
(Catalog ET, pages 192-205)

Series VN Heavy Duty Cam Switches
(Catalog VN, pages 208-226)

INTERNATIONAL STANDARDS All Elektra Switches meet International Standards and CE specifications as well as UL and CSA specifications. All switches are designed with Positive Break and Quick Make - Quick Break mechanisms.

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"S" Safety Door Interlock is standard with the Auto Alignment system for ease of mounting. The safety Door Interlock System interlocks the door so the panel door cannot be opened with power "ON". The switch must be turned "OFF" before door can be opened.

This **auto alignment system** includes extra mounting tolerance in the door coupling to allow for both extra installation mounting drilling tolerance and future door sag. Too often users and installers are frustrated due to the exact mounting tolerance required by most other designs.



"F" Front Mount provides mounting directly to the enclosure with the external operator handle and name plate directly connected to the contact mechanism mounted to the inside. Front mounting to the door is with two or four screws.

Operator handle B knob is standard on all Series VN switches. The silver black (Type SI) name plate is also standard. Type SI name plates can be engraved with special markings as required.



"B" Base Mount provides mounting directly to the base panel inside enclosure. The marking name plate and B knob can be secured directly to the top of the switch.



"H" Single Hole Mounting is available as an option for 22mm (7/8"). When full size 30mm mounting is desired, ring washer (P/N #ED 134353) is included.



FZD Cylinder Lock
Key Operated
Sizes V2N, V3N

Cylinder Lock Off
BZD version lock off is available on special order for sizes V2N through VN200.

Cam Switch - Mixed Ratings For switching applications where the contacts have very different power current ratings on the poles or low current auxiliary switching requirements, switch chambers of various sizes can be coupled together.

EXTRA POLES



Switch VN80 Coupled with V2N Aux.

***NOTE:** If overlapping contacts are required, Add: \$5 to the list price and specify overlapping contacts are required.

POWER POLE PRICE ADDITION Additional Cost to add poles of same current rating to switch			AUXILIARY CONTACTS (25 Amp) Cost Addition each pole	
Series	* Add 1 Power Pole List	* Add 2 Power Poles List	V2N Auxiliary List	Gold Concave Auxiliary Design List
V2N	+\$18	+\$36	+\$18	+\$30
V3N	+\$19	+\$38		
VN 32	+\$22	+\$44		
VN 50	+\$22	+\$44		
VN 80	+\$56	+\$112		
VN 125	+\$65	+\$130		
VN 200	+\$160	+\$320		

PRICE EXAMPLE: Additional cost to add poles to different current rated switches, or adding Gold Contact Auxiliary Poles, use above pole cost plus one attachment plate charge. To determine cost, the base switch type is the higher current unit.

ATTACHMENT PLATE	
Base Switch Type	Attachment Cost List
V2N	-
V3N	+\$20
VN 32, 50	+\$30
VN 80	+\$40
VN 125, 200	+\$50

Auxiliary Contacts



Gold Flash Concave Contact Design

Extra auxiliary contacts can easily be added to higher power Cam Switches, for switching light currents or low power switch currents. Designers recognize high contact pressure as a basic requirement for highly reliable circuit continuity on pilot duty circuits.

Type V2N, with a high 25 Amp auxiliary rating, provides the needed high fidelity switching. Through the years, many companies specify these higher current switches for needed reliable meter circuits, temperature and monitor circuits and similar applications.

Gold Flash Auxiliary Contacts. Special Auxiliary Contact Design. Specially designed gold concave moveable and stationary contacts are also available and provide extreme long life highly reliable auxiliary contact operation. Concave auxiliary contact design provides high pressure contact at two points on the ridge of the contact. Because of random movement of the moveable contact on each operation, these contact points change location on each operation. The concave design also greatly reduces the possibility of dust particles which can cause intermittent operation and yet provides the higher current capability.

Continuity Problems

Low current continuity contact problems can be caused by wiping action design, one contact point designs, or serrated contacts. The use of the Elektra concave contact design provides increased contact switching reliability. Other auxiliary design possibilities are not the final answer.



Wipe Direction Design



Center Point Design



Serrated Contact Design



Dust pile up can make mound



Normal Contact Pressure pounds down point



Dust Collector

GOLD FLASH CONTACTS, CORROSIVE ENVIRONMENTS. Corrosive areas, particularly sulfuric, require gold contact auxiliaries to maintain reliable switching of low current circuits. The above noted gold plated auxiliary contacts are readily available on request and can be added to higher power cam switches.

SERIES VN HEAVY DUTY BYPASS CAM SWITCHES

BYPASS SWITCH with "OFF" position
(Change over switch) **Open Type**

To 250 Amp, 600 Volt
400 Amp to 1200 Amp, 690 Volt



Load Make/Load Break
Positive Opening



Safety door interlock includes misalignment feature

1-0-2 600V	Amps CSA/UL General Purpose	Amps IEC	No. Chambers	Catalog Number	Front Mount	List	Base Mount	List	Safety Door Interlock	List
2 P O L E	25	25	2	E V2N-2U B1-	-FS	\$76	-BS	\$84	-SS	\$112
	35	32	2	E V3N-2U B3-	-FS	\$100	-BS	\$110	-SS	\$134
	50	45	2	E VN32-2U B3-	-FS	\$178	-BS	\$198	-SS	\$237
	60	63	2	E VN50-2U B4-	-FS	\$268	-BS	\$296	-SS	\$356

1-0-2 600V	Amps CSA/UL General Purpose	Amps IEC	No. Chambers	Catalog Number	Front Mount	List	Base Mount	List	Safety Door Interlock	List
3 P O L E	25	25	3	E V2N-3U B1-	-FS	\$87	-BS	\$102	-SS	\$121
	35	32	3	E V3N-3U B3-	-FS	\$108	-BS	\$117	-SS	\$141
	50	45	3	E VN32-3U B3-	-FS	\$220	-BS	\$227	-SS	\$302
	60	63	3	E VN50-3U B4-	-FS	\$322	-BS	\$338	-SS	\$405
	100	100	3	E VN80-3U B4-	-FS	\$420	-BS	\$447	-SS	\$542
	100	150	3	E VN125-3U B5-	-FS	\$914	-BS	\$949	-SS	\$1009
	200	250	6	E VN200-3U B5-	-FS	\$1613	-BS	\$1648	-SS	\$1675

1-0-2 600V	Amps CSA/UL General Purpose	Amps IEC	No. Chambers	Catalog Number	Front Mount	List	Base Mount	List	Safety Door Interlock	List
4 P O L E	25	25	4	E V2N-4UB1-	-FS	\$102	-BS	\$114	-SS	\$132
	35	32	4	E V3N-4UB3-	-FS	\$126	-BS	\$135	-SS	\$160
	50	45	4	E VN32-4UB3-	-FS	\$243	-BS	\$260	-SS	\$310
	60	63	4	E VN50-4UB4-	-FS	\$373	-BS	\$390	-SS*	\$467
	100	100	4	E VN80-4UB4-	-FS	\$471	-BS	\$493	-SS*	\$586
	100	150	4	E VN125-4UB5-	-FS	\$1068	-BS	\$1097	-SS*	\$1143
	200	250	4	E VN200-4UB5-	-FS	\$1912	-BS	\$1965	-SS*	\$2005

(Applications requiring 4 pole units above 250 Amp, please contact EE Controls.)

1-0-2 1000V	Amps IEC	No. Chambers	Catalog Number	Front Mount	List	Base Mount	List	Safety Door Interlock	List
3 P O L E	400	3	E NLU-400-3U	-FS	+	-BS	+	-SS	+
	630	3	E NLU-630-3U	-FS	+	-BS	+	-SS	+
	800	6	E NLU-800-3U	-FS	+	-BS	+	-SS	+
	1200	6	E NLU-1200-3U	-FS	+	-BS	+	-SS	+

Ratings were requested from UL/CSA. Higher ratings are possible to match IEC.

Name plate is 1-0-2. Many other standard name plates are available at no extra cost. Check with factory.

Example: **DRIVE-OFF-BYPASS**

+ Contact Factory for Pricing

*Size 4 and 5 plate not available on B Operator with safety door interlocks.

BYPASS SWITCH *without* "OFF" position
(Change over switch) **Open Type**

To 250 Amp, 600 Volt
400 Amp to 1200 Amp, 1000 Volt



Load Make/Load Break
Positive Opening



					- Suffix			
1- 2 600V	Amps CSA/UL General Purpose	Amps IEC	No. Chambers	Catalog Number	Front Mount	List	Base Mount	List
2 P O L E	25	25	2	E V2N-2UD B1-	-FS	\$76	-BS	\$84
	35	32	2	E V3N-2UD B3-	-FS	\$100	-BS	\$110
	50	45	2	E VN32-2UD B3-	-FS	\$178	-BS	\$198
	60	63	2	E VN50-2UD B4-	-FS	\$268	-BS	\$296

1- 2 600V	Amps CSA/UL General Purpose	Amps IEC	No. Chambers	Catalog Number	Front Mount	List	Base Mount	List
3 P O L E	25	25	3	E V2N-3UD B1-	-FS	\$87	-BS	\$102
	35	32	3	E V3N-3UD B3-	-FS	\$108	-BS	\$117
	50	45	3	E VN32-3UD B3-	-FS	\$220	-BS	\$227
	60	63	3	E VN50-3UD B4-	-FS	\$322	-BS	\$338
	100	100	3	E VN80-3UD B4-	-FS	\$420	-BS	\$447
	100	150	3	EVN125-3UD B5-	-FS	\$914	-BS	\$949
	200	250	6	E VN200-3UD B5-	-FS	\$1613	-BS	\$1648

1- 2 690V	Amps IEC	No. Chambers	Catalog Number	Front Mount	List	Base Mount	List
3 P O L E	400	3	E NLU-400 3UD-	-FS	+	-BS	+
	630	3	E NLU-630 3UD-	-FS	+	-BS	+
	800	6	E NLU-800- 3UD-	-FS	+	-BS	+
	1200	6	E NLU-1200- 3UD-	-FS	+	-BS	+

+ Contact factory for pricing

1- 2 600V	Amps CSA/UL General Purpose	Amps IEC	No. Chambers	Catalog Number	Front Mount	List	Base Mount	List
4 P O L E	25	25	4	E V2N-4UD B1-	-FS	\$102	-BS	\$114
	35	32	4	E V3N-4UD B3-	-FS	\$126	-BS	\$135
	50	45	4	E VN32-4UD B3-	-FS	\$243	-BS	\$260
	60	63	4	E VN50-4UD B4-	-FS	\$373	-BS	\$390
	100	100	4	E VN80-4UD B4-	-FS	\$471	-BS	\$493
	100	150	4	EVN125-4UD B5-	-FS	\$1068	-BS	\$1097
	200	250	4	E VN200-4UD B5-	-FS	\$1912	-BS	\$1965

SERIES VN HEAVY DUTY REVERSING CAM SWITCHES

REVERSING
3 phase / Single phase
Open and Enclosed

To 100 HP 200 Amp / 600 Volt
400 Amp to 1200 Amp / 1000 Volt
FOR OFF REV



3 Phase Diagram



-FS Open



-S4 Enclosed
T24

REVERSING - MAINTAINED OPERATION

Amps	Max Horse Power					No. of Chambers	Catalog No.	-Suffix			
	1 phase ▲ 120 V 240V		3 phase ▲ 230V 480V 600V					Open -FS List	Enclosed -S4 List	-4X List	Enclosed -M65 List
25	1.5	2	5	10	10	3	E V2N- 3W B1*	\$98	\$125 (1)	\$152 (3)	\$176 (4)
35	2	3	7.5	15	20	3	E V3N- 3W B3-*	\$114	\$169 (2)	\$203 (3)	\$264 (4)
50	3	7.5	10	25	20	3	E VN32- 3W B3-*	\$220	\$331 (2)	\$383 (3)	\$401 (4)
60	5	10	20	40	30	3	E VN50- 3W B4-*	\$277	\$383 (2)	\$438 (3)	\$456 (5)
100	5	15	25	50	50	3	E VN80- 3W B4-*	\$345	\$514 (2)	\$514 (2)	\$542 (5)
100	7.5	15	30	60	50	3	E VN125- 3W B5-*	\$919	-	\$1355(3)	\$1302 (5)
200	10	20	40	75	100	3	E NV200- 3W B5-*	\$1502	-	-	\$2140 (5)

Amp IEC	No. Chambers	Catalog No.	- Suffix			
			Front Mount	List	Base Mount	List
400	3	E NLU 400-3W-	-FS	+	-BS	+
630	3	E NLU 630-3W-	-FS	+	-BS	+
800	6	E NLU 800-3W-	-FS	+	-BS	+
1200	6	E NLU 1200-3W-	-FS	+	-BS	+

+ Contact factory for pricing

Enclosure Notes:

- (1) IP65 (4) Metal IP65
- (2) IP55 (5) Metal Nema 4 /12
- (3) Nema 4X

▲ Reversing Wiring Diagram
Both 1 phase units and 3 phase units are identical, except for addition of one wire jumper A. For factory inclusion of jumper A change catalog number from 3W to 1W. No extra charge.

M65 Metal Enclosed with Molded Drip Shield, size Type D1 or VN2 only.



-S4 Enclosed
T25



-MK2 Enclosed

To supply M65 with **Drip Shield** (per photo) replace M65 with MK2.
K - Ball Handle Design add \$4 List
2 - For Drip Shield for sizes D1, V2N add \$4 List

P/N Example:

E V2N-3WB1-**M65**
E V2N-3WB1-**MK2**

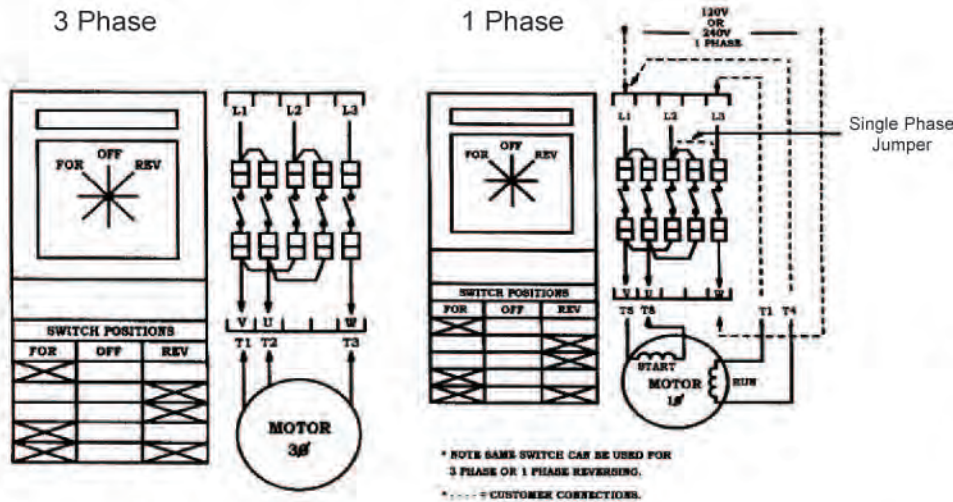
\$176 List
\$184 List

REVERSING Spring Return to Center (FOR-OFF-REV) 3 Phase

Amps UL/CSA General Purpose	Max Horse Power					No. of Chambers	Catalog No.	-Suffix			
	1 phase ▲ 120 V 240V		3 phase ▲ 230V 480V 600V					Open -FS List	Enclosed -S4 List	-4X List	Enclosed -M65 List
25	1.5	2	5	10	10	3	E V2N- 3WR2 B1-	\$92	\$125(1)	\$152 (3)	\$176 (4)
35	2	3	7.5	15	20	3	E V3N- 3WR2 B3-	\$114	\$169 (2)	\$203 (3)	\$264 (4)
50	3	7.5	10	25	20	3	E VN32- 3WR2 B3-	\$220	\$331 (2)	\$383 (3)	\$401 (4)
60	5	10	20	40	30	3	E VN50- 3WR2 B4-	\$277	\$383 (2)	\$438 (3)	\$456 (5)

SPRING RETURN from left side only to center is available. In catalog number, replace "WR2" with "WR1"

REVERSING WIRING DIAGRAM



Type "B"



Type "K1"

Type "L"

Note: K1, L Type for V2N & V3N only

Handle Options for Reversing Motor Switches

Type VN Operators have "B" handle design as standard. Reversing Units can be supplied with optional handle styles: "K1" Metal Ball Handle Design add \$4 list or "L" Plastic Handle Design add \$4 list LR-Red, LB-Black

ENCLOSURES IP65

NEMA / IP65

IP65 is for Industrial and Outdoor Applications and is capable of hose test water tightness.

IP65 is used internationally for similar applications as NEMA 4, or 4X.

IP55 Protected against dust. (No harmful deposit) and against water sprayed from a hose from all directions.

1st Digit
6



Complete protection against dust.

2nd Digit
5



Protected against water sprayed from a hose from all directions.

(See IP standard for exact specifications)

Enclosed 30A Fusible Disconnect (NEMA 1, 12, 3R, 4X) & Enclosed Non - Fusible Disconnects. UL508

ENCLOSED 30A Fusible Disconnect



Part # CC-30A-RG-4X





**NEMA 4X, IP 67
\$146.00 List**

Above part number shown as Red / Yellow Operator. For Black Version Replace "RG" with "SS".
Example: CC-30A-SS-4X (same price)

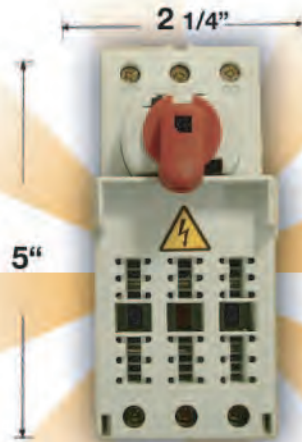
The Enclosed 30 Amp Fusible Disconnect is safety door interlocked with capability of being " Locked Out " with up to three padlocks.

Fuse type required is "cc" rejection feature
Fuse : Operator is capable of being defeated.
Standard part number is inclusive with 3 poles.
If Auxiliaries are desired see next page for adder. (1N.C / 1N.C) Add suffix - "AX" (+19 list)
Example : CC - 30A - RG - 4X - AX \$ 165 List each.

(Enclosed) "Non" - Fusible Disconnects NEMA 1, 3R,12,4X (3 Pole) 25 Amp - 80 Amps

General Purpose Amps	Horsepower Rating / HP	1 Phase		3 Phase		Handle Color	Part Number	List Each	Dimensions		
		H	W	D	H				W	D	
 25A	110-120V AC	1	2	Red / Yellow	25A - 3P - RG - 4X	\$87	25Amp				
	200V AC	2	5				H	W	D		
	208V AC	2	5	Black			25A - 3P - SS - 4X	118	96.4	106	
	220-240V AC	3	7.5								
	265V AC	3	7.5								
	277V AC	3	7.5								
	380-415V AC	5	10								
	440-480V AC	7.5	15								
550-600V AC	5	10									
 40A	110-120V AC	2	3	Red / Yellow	40A - 3P - RG - 4X	\$140	40Amp				
	200V AC	3	7.5				H	W	D		
	208V AC	3	7.5	Black			40A - 3P - SS - 4X	190	144	131	
	220-240V AC	5	10								
	265V AC	5	10								
	277V AC	5	10								
	380-415V AC	7.5	15								
	440-480V AC	10	20								
550-600V AC	7.5	15									
 60A	110-120V AC	3	5	Red / Yellow	60A - 3P - RG - 4X	\$153	60Amp				
	200V AC	5	10				H	W	D		
	208V AC	5	10	Black			60A - 3P - SS - 4X	190	144	131	
	220-240V AC	5	10								
	265V AC	5	10								
	277V AC	7.5	10								
	380-415V AC	10	20								
	440-480V AC	15	25								
550-600V AC	15	25									
 80A	110-120V AC	3	7.5	Red / Yellow	80A - 3P - RG - 4X	\$214	80Amp				
	200V AC	7.5	10				H	W	D		
	208V AC	7.5	15	Black			80A - 3P - SS - 4X	190	144	131	
	220-240V AC	7.5	15								
	265V AC	10	20								
	277V AC	10	20								
	380-415V AC	15	25								
	440-480V AC	20	30								
550-600V AC	25	40									

▲ Contact Factory: For larger sizes. Also available are Stainless steel Enclosed version.



Part # **CC - 30A - ****

**** Description**

- SS Black Operator Kit Included
- RG Red / Yellow Operator Kit Included

Part number includes :
External handle, 11.8" inches shaft, 30 AMP fusible disconnect.

Dimensions:
mm,(inches)

Hinged Cover Disconnects Fuses.

Listed HP Ratings
 File # E245542 (Disconnect HP Ratings)

	22mm Single Hole Mount Design Part # CC - SH - SS Black		4 Screw Mount Design Part # CC - SS Black
	Part # CC - SH - RG Red/Yellow		Part # CC - RG Red/Yellow

Padlockable NEMA 4X, up to 3 padlocks. (Safety Door Interlock)

3 Phase	208v	220/240v	480v	600v	AMPS
HP	7.5	15	20	15	40
1 Phase	120v	220/240v			AMPS
HP	2	5			40

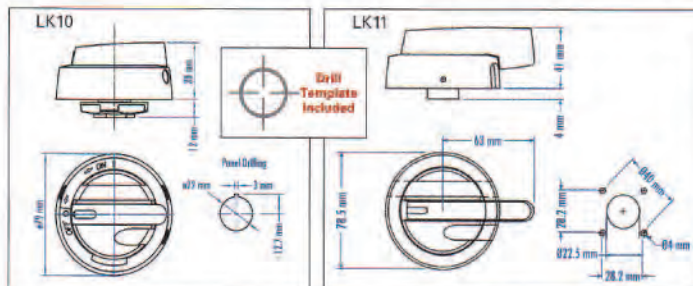
Interrupting capacity 10Ka with back up fuse

- Motor Disconnect:
30A Class CC Rejection feature type fuse
- Manual Motor Starter (Load Break Contacts)
- Nema 4X IP67 ,external handle

Order Quantity CC - 30A - **	List Price	CC- 30A- ** Includes:
1 - 19	\$ 108.00	· Handle
20 - 49	\$ 103.00	· Shaft
50 +	\$ 98.00	· Switch
		· Fuse Block

Non-Fusible 40 Amp Disconnects **40A MINI-** \$63.00**

Part #	Spare Part Description	Spare Part List Price
CC - 30A	Switch + Fuse Block	\$ 73.00
40A - MINI	40 Amp Switch	\$ 38.00
CC - 30A - B	Fuse Block	\$ 35.00
CC - Shaft	Shaft (11.81")	\$ 15.00
CC - SS	Black Handle	\$ 20.00
CC - RG	Red Handle	\$ 20.00
CC - SH - SS	Single Hole (black)	\$ 20.00
CC - SH - RG	Single Hole (Red)	\$ 20.00
AUX - KUIV	NO/NC AUX.	\$19.00



OFF - ON SWITCH ▲

Load Make/Load Break Open Type
Positive Opening

25 Amp to 250 Amp, 600 Volt
400 Amp to 1200 Amp, 690 Volt



4 Pole Diagram



Standard Handle

1 Pole (0-1) Available to 1200 Amp.
(Check with factory)

2 Pole (0-1) 45° Switch Angle 600 Volt

				- Suffix					
Amps CSA/UL General Purpose	Amps IEC	No. Chambers	Catalog Number	Front Mount	List	Base Mount	List	Safety Door Interlock	List
25	25	1	E V2N-2B1-	-FS	\$61	-BS	\$64	-SS	\$95
35	32	1	E V3N-2B3-	-FS	\$89	-BS	\$95	-SS	\$129
50	45	1	E VN32-2B3-	-FS	\$128	-BS	\$134	-SS	\$168
60	63	1	E VN50-2B4-	-FS	\$180	-BS	\$191	-SS	\$244



Operator Handle Options



Handle Options

3 Pole (0-1) 45° Switch Angle ▲ 600 Volt

				- Suffix					
Amps CSA/UL General Purpose	Amps IEC	No. Chambers	Catalog Number	Front Mount	List	Base Mount	List	Safety Door Interlock	List
25	25	2	E V2N-3B1-	-FS	\$73	-BS	\$75	-SS	\$109
35	32	2	E V3N-3B3-	-FS	\$100	-BS	\$106	-SS	\$140
50	45	2	E VN32-3B3-	-FS	\$139	-BS	\$145	-SS	\$179
60	63	2	E VN50-3B4-	-FS	\$190	-BS	\$206	-SS	\$266
100	100	2	E VN80-3B4-	-FS	\$251	-BS	\$279	-SS	\$339
100	150	2	E VN125-3B5-	-FS	\$669	-BS	\$725	-SS	\$792
200	250	4	E VN200-3B5-	-FS	\$1112	-BS	\$1170	-SS	\$1238

For different handle options, replace "B" in part # with:
"D" for 3 padlock red/yellow handle. Add \$16 list
"BE" for 1 padlock red/yellow handle. Add \$ 9 list
PN Example:
E V3N-3B3-FS becomes E V3N-3BE-FS. \$109 list

3 Pole (0-1) 400 Amp to 1200 Amp 690 Volt

				- Suffix					
Amps IEC	No. Chambers	Catalog Number	Front Mount	List	Base Mount	List	Safety Door Interlock	List	
400	2	E NL-400-3-	-FS	+	-BS	+	-SS	+	
630	2	E NL-600-3-	-FS	+	-BS	+	-SS	+	
800	3	E NL-800-3-	-FS	+	-BS	+	-SS	+	
1200	3	E NL-1200-3-	-FS	+	-BS	+	-SS	+	

Operators Only List
E B-* \$ 7
E BE-RG-*
E D-RG-*

*Select Switch size:

Switch Size:
V2N * S1
V3N, VN32 S3
VN50, VN80 S4
VN125, VN200 S5

E BE-RG-S1, E D-RG-S1 \$20 List each
E BE-RG-S3, E D-RG-S3 \$33 List each
E BE-RG-S4, E D-RG-S4 \$35 List each
E BE-RG-S5, E D-RG-S5 \$37 List each

+ Contact factory for pricing

▲ SEE SERIES D SWITCHES for "ON-OFF" straight through wiring and **LOWER COST.**

Example: E V2N-3B1-FS \$73 List E VN200-3B5-FS \$1112
25 Amp E D1-3BE1-FM-SI \$50 List 250 Amp E D7-3D 5FM-RG \$717



SERIES VN HEAVY DUTY OFF-ON CAM SWITCHES



OFF - ON SWITCH Open Type

25 Amp to 1200 Amp, 600 Volt
400 Amp to 1200 Amp, 690 Volt



4 Pole (0-1) 45° Switch Angle ▲				600 Volt						- Suffix	
Amps CSA/UL General Purpose	Amps IEC	No. Chambers	Catalog Number	Front Mount	List	Base Mount	List	Safety Door Interlock	List		
25	25	2	E V2N-4B1-	-FS	\$78	-BS	\$81	-SS	\$115		
35	32	2	E V3N-4B3-	-FS	\$112	-BS	\$117	-SS	\$151		
50	45	2	E VN32-4B3-	-FS	\$167	-BS	\$173	-SS	\$207		
60	63	2	E VN50-4B4-	-FS	\$230	-BS	\$247	-SS	\$300		
100	100	2	E VN80-4B4-	-FS	\$318	-BS	\$335	-SS	\$395		
100	150	2	E VN125-4B5-	-FS	\$781	-BS	\$836	-SS	\$903		
200	250	4	E VN200-4B5-	-FS	\$1255	-BS	\$1294	-SS	\$1361		

4 Pole (0-1) 400 Amp to 1200 Amp				690 Volt						- Suffix	
Amps IEC	No. Chambers	Catalog Number	Front Mount	List	Base Mount	List	Safety Door Interlock	List			
400	2	E NL400-4-	-FS	+	-BS	+	-SS	+			
630	2	E NL630-4-	-FS	+	-BS	+	-SS	+			
800	4	E NL800-4-	-FS	+	-BS	+	-SS	+			
1200	4	E NL1200-4-	-FS	+	-BS	+	-SS	+			

6 Pole (0-1) 45° Switch Angle ▲				600 Volt						- Suffix	
Amps CSA/UL General Purpose	Amps IEC	No. Chambers	Catalog Number	Front Mount	List	Base Mount	List	Safety Door Interlock	List		
25	25	3	E V2N-6B1-	-FS	\$133	-BS	\$138	-SS	\$153		
35	32	3	E V3N-6B3-	-FS	\$155	-BS	\$160	-SS	\$175		
50	45	3	E VN32-6B3-	-FS	\$201	-BS	\$212	-SS	\$246		
60	63	3	E VN50-6B4-	-FS	\$303	-BS	\$318	-SS	\$364		
100	100	3	E VN80-6B4-	-FS	\$400	-BS	\$415	-SS	\$461		
100	150	3	E VN125-6B5-	-FS	\$886	-BS	\$902	-SS	\$970		
200	250	6	E VN200-6B5-	-FS	\$1502	-BS	\$1528	-SS	\$1593		

6 Pole (0-1) 400 Amp to 1200 Amp				690 Volt						- Suffix	
Amps IEC	No. Chambers	Catalog Number	Front Mount	List	Base Mount	List	Safety Door Interlock	List			
400	3	E NL400-6-	-FS	+	-BS	+	-SS	+			
630	3	E NL630-6-	-FS	+	-BS	+	-SS	+			
800	6	E NL800-6-	-FS	+	-BS	+	-SS	+			
1200	6	E NL1200-6-	-FS	+	-BS	+	-SS	+			

+ Contact factory for pricing

Ratings were requested from UL/CSA. Higher ratings are possible to match IEC ratings.
Name plate is "OFF-ON". Many other standard name plates are available at no extra cost. Check with factory.
For 25 Amp to 1200 Amp bypass cam switches see page 212, 213

STEP SWITCH *with* "OFF" position OPEN TYPE FRONT PANEL MOUNT

Typical 3 Step
0-1-2-3



Front Panel Mount



Base Mount Option*

Circuit	No. Steps	No. Chambers	Amp*	Catalog No.	List
0-1-2	2	1	25	E V2N S02 B1-FS	\$59
0-1-2-3	3	2	25	E V2N S03 B1-FS	\$70
0-1-2-3-4	4	2	25	E V2N S04 B1-FS	\$84
0-1-2-3-4-5	5	3	25	E V2N S05 B1-FS	\$92
0-1-2-3-4-5-6	6	3	25	E V2N S06 B1-FS	\$103
0-1-2-3-4-5-6-7	7	4	25	E V2N S07 B1-FS	\$114
0-1-2-3-4-5-6-7-8	8	4	25	E V2N S08 B1-FS	\$125

Amp*	Catalog No.	List
35	E V3N S02 B3-FS	\$100
35	E V3N S03 B3-FS	\$117
35	E V3N S04 B3-FS	\$134
35	E V3N S05 B3-FS	\$151
35	E V3N S06 B3-FS	\$167
35	E V3N S07 B3-FS	\$184
35	E V3N S08 B3-FS	\$201

Switching Angle: 45°, 8 step is 30°. Switches are available to 12 steps and to 63 Amp. Multiple pole step switches are also available.

STEP SWITCH *without* "OFF" position OPEN TYPE FRONT PANEL MOUNT

Typical 3 Step
0-1-2-3



Front Panel Mount



Base Mount Option*

Circuit	No. Steps	No. Chambers	Amp*	Catalog No.	List
1-2	2	1	25	E V2N S2 B1-FS	\$56
1-2-3	3	2	25	E V2N S3 B1-FS	\$67
1-2-3-4	4	2	25	E V2N S4 B1-FS	\$81
1-2-3-4-5	5	3	25	E V2N S5 B1-FS	\$89
1-2-3-4-5-6	6	3	25	E V2N S6 B1-FS	\$100
1-2-3-4-5-6-7	7	4	25	E V2N S7 B1-FS	\$112
1-2-3-4-5-6-7-8	8	4	25	E V2N S8 B1-FS	\$123

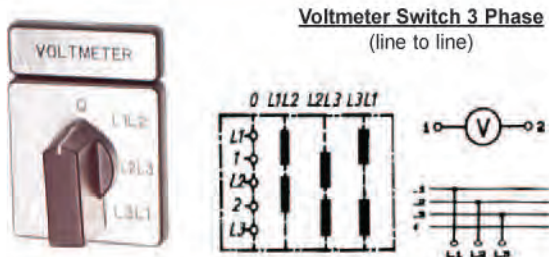
Amp*	Catalog No.	List
35	E V3N S2 B3-FS	\$98
35	E V3N S3 B3-FS	\$114
35	E V3N S4 B3-FS	\$131
35	E V3N S5 B3-FS	\$148
35	E V3N S6 B3-FS	\$165
35	E V3N S7 B3-FS	\$181
35	E V3N S8 B3-FS	\$198

ENCLOSED STEP SWITCHES

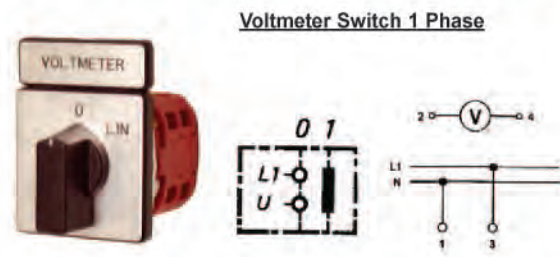
Both Metal and Non Metal Enclosed Switches are available from stock.
*Base Mount (BM) Option. Substitute BS for FS in catalog number. Add \$5.00 list.

Stock
Single Hole Mount
For catalog number - change FS above to HS
Example: FV3U S2 B3-HS
Add \$5.00 to list price

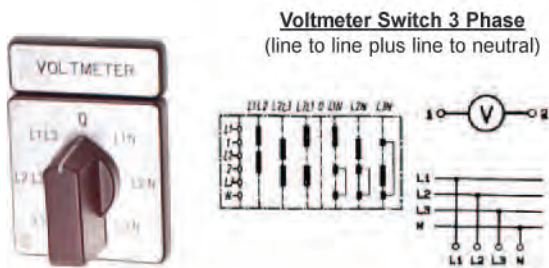
METER SWITCHES (Front Mount) *See Bulletin D1 for Series D1 Meter Selections*



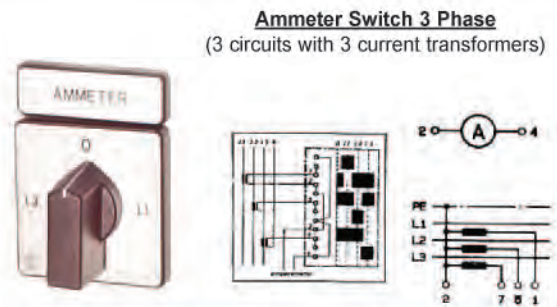
Catalog No.	List	No. Chambers
E D1-2V 1FM-SO	\$65	2
E V2N 2V 1-FS	\$72	2



Catalog No.	List	No. Chambers
ED 1V 1FM-SO	\$55	1
E V2N 1V1-FS (25 Amp)	\$72	2



Catalog No.	List	No. Chambers
E D1-3V 1FM-SO	\$108	4
E V2N 3V 1-FS	\$84	4



Catalog No.	List	No. Chambers
E D1-1MA 1FM-SO	\$88	3

For Base Mount, substitute "BS" for FS in catalog number. Same price.



For Single Hole Mount, (22mm (7/8")) substitute "HS" for FS in catalog numbers. Add \$5.00 list.

To convert 22mm mount to Full Size, 30.5mm mount, add adapter ring:
P/N# ED-134353 \$0.80 list

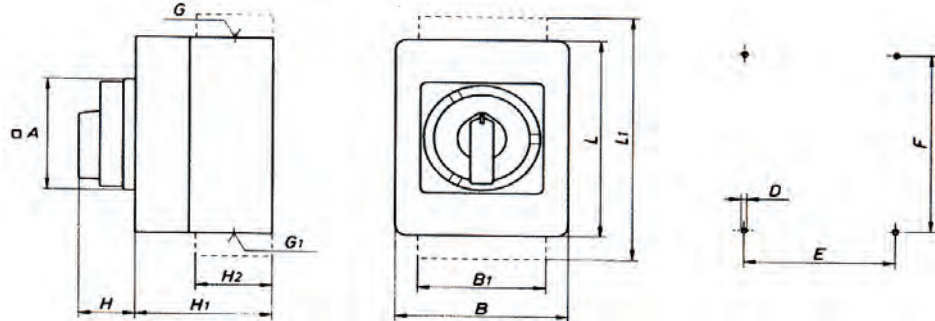
Ammeter Switch 3 Phase
(3 circuits with or without current transformers)



Catalog No.	List	No. Chambers
E V2N-MT3-1FM-SI	\$104	5

Other Meter Switches are also available, including combination 3 phase ammeter/voltmeter type.

SERIES D1 (Enclosed Type)



Enclosure Dimensions for sizes: D1, V2N, V3N

Enclosure/Type	Max Poles	B	L	HI	A	H	E	F	D	G & GI
G32 (Metal)	6 poles max	91mm 3.58"	97mm 3.82"	72mm 2.83"	43mm 1.69"	26mm 1.02"	79mm 3.11"	83mm 3.27"	5.5mm .22"	2 x 23mm 2 x 2.09" Hole Size
T24 (Non-Metal) Standard Compact	6 poles max	82mm 3.22"	82mm 3.22"	67mm 2.63"	65mm 2.56"	34mm 1.33"	68mm 2.67"	68mm 2.67"	4.5mm .17"	2 x PG16* 2 x 0.84" Hole Size
T25 (Non-Metal) Standard	8 poles max	82mm 3.22"	82mm 3.22"	93mm 3.66"	65mm 2.56"	34mm 1.33"	68mm 2.67"	68mm 2.67"	4.5mm .17"	2 x PG16* 2 x 0.84" Hole Size
T8/1 (Non-Metal)	6 poles max	91mm 3.58"	121mm 4.75"	75mm 2.94"	72mm 2.83"	34mm 1.33"	76mm 2.98"	106mm 4.16"	4.5mm .17"	2 x PG16* 2 x 0.84" Hole Size

Each D1, V2N, V3N chamber section contains 2 poles.

*accepts 7/8" cord grip

LEGEND PLATE TYPE SI MARKING

Standard markings

Identification Suffix

OFF ON	-N
HAND OFF AUTO	-K
FOR OFF REV	-I
UP OFF DOWN	-J
MANUAL AUTO	-L
HIGH OFF LOW	-P
NORMAL-OFF-BYPASS	-Q

Check with factory for additional standard markings.

▲ Type Number of switch must be identified.
(for VN Switch or for D switch)

Special Marking Legend add: \$6.80 List

PLATE S

Silver with Engraved Black Letters

FACE SIZE	DIMENSIONS
1	1 7/8" x 1 7/8" (48mm)
2	2 1/2" x 2 1/2" (65mm)
3	2 7/8" x 2 7/8" (72mm)
4	3.8" x 3.8" (96mm)
5	4.9" x 4.9" (125mm)

Face size 1 is standard S size on D1 and V2N switches.



Type S plate (silver)
Face Size 3 and 1 for VN

	Disconnect Inscription Plate		List Price			
	Fits above Type BE, BY, D, SI Operator/Plates	Catalog#	48 x 16mm (1.9"x0.6")	65 x 16mm (2.5"x0.8")		
Main Switch	Brush Silver with black letters	ED-NP-	-S1	\$8	-S2	\$9
	Yellow with black letters	ED-NP-	-Y1	\$8	-Y2	\$9
Main Switch	Black with white letters	ED-NP-	-B1	\$8	-B2	\$9

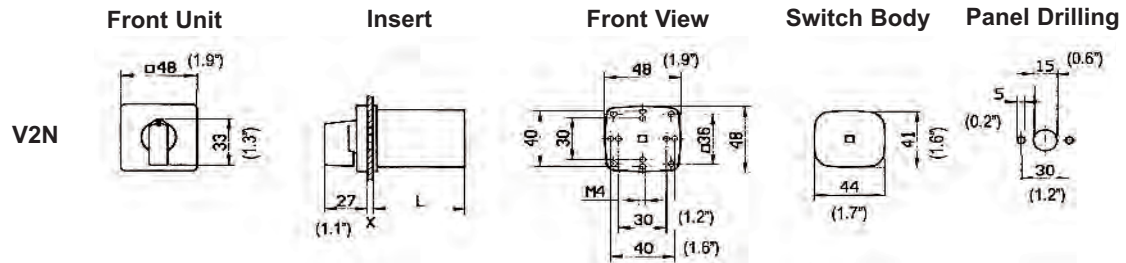
MAIN SWITCH

Standard marking add suffix:
Main switch (-MS) or
Emergency Off (-EO)

For special marking add \$6.80 List
Example: #ED-NP-S1

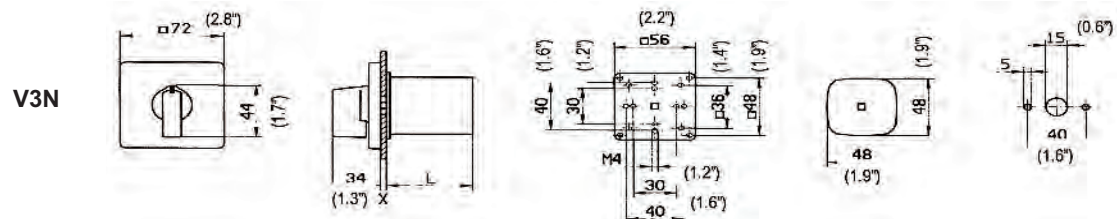
OPEN TYPE V2N, V3N

mm inches



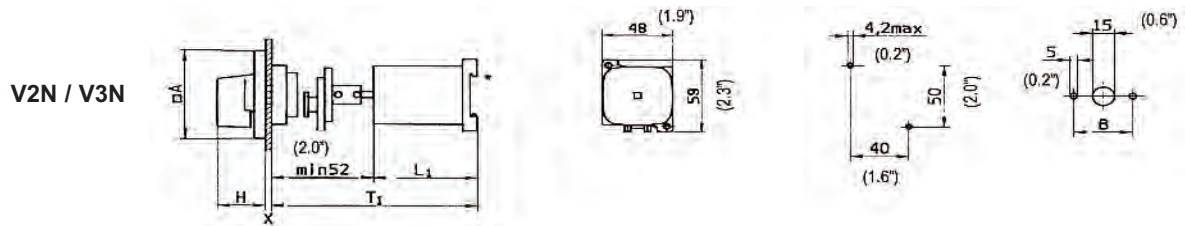
Front Mount (F)

		Number of contact chambers											
Type/Type	X max.	Dim	1	2	3	4	5	6	7	8	9	10	11
V2N	4	L	33	45	57	69	81	93	105	117	129	141	153
		L	(1.3)	(1.8)	(2.2)	(2.7)	(3.2)	(3.7)	(4.1)	(4.6)	(5.1)	(5.6)	(6.0)



Front Mount (F)

		Number of contact chambers											
Type/Type	X max.	Dim	1	2	3	4	5	6	7	8	9	10	11
V3N	4	L	34	47	60	73	86	99	112	125	138	151	164
		L	(1.3)	(1.8)	(2.4)	(2.9)	(3.4)	(3.9)	(4.4)	(4.9)	(5.4)	(5.9)	(6.5)



With Safety Door Interlock (S)

				Number of contact chambers											
A	H	B	Xmax	Dim	1	2	3	4	5	6	7	8	9	10	11
Type V2N				L ₁	39	47	60	73	86	99	112	125	138	151	164
48	27	30	4	L ₁	(1.5)	(1.8)	(2.4)	(2.9)	(3.4)	(3.9)	(4.4)	(4.9)	(5.4)	(5.9)	(6.5)
(1.9)	(1.1)	(1.2)	(1.6)	T	100-106	112-118	124-130	136-142	148-154	160-166	172-178	184-190	196-202	208-214	220-226
				T	(3.9)	(4.4)	(4.9)	(5.4)	(5.8)	(6.3)	(6.8)	(7.2)	(7.7)	(8.2)	(8.7)

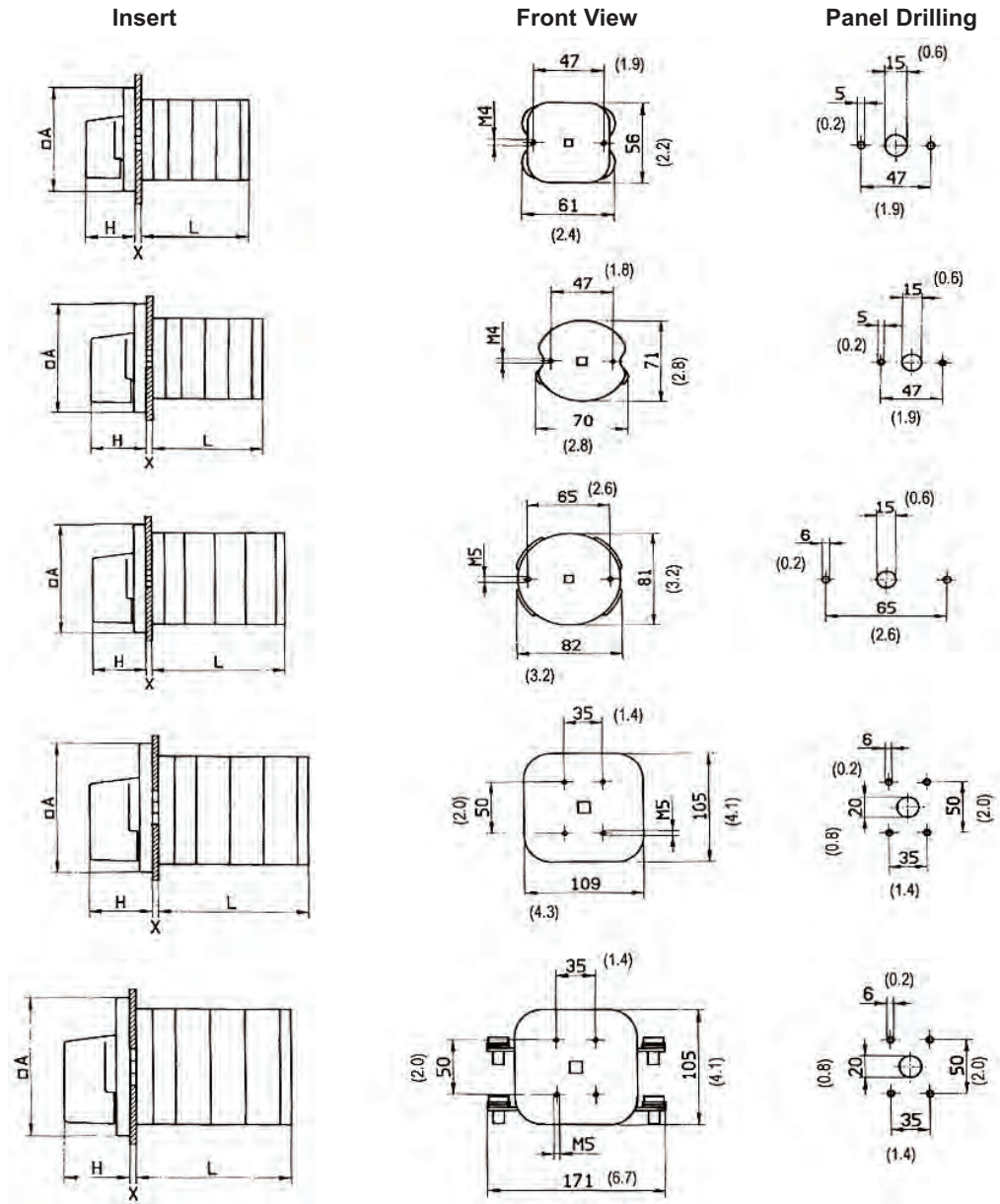
Type V3N				L ₁	40	53	66	79	92	105	118	131	144	157	170
48	27	30	4	L ₁	(1.6)	(2.1)	(2.6)	(3.1)	(3.6)	(4.1)	(4.6)	(5.2)	(5.7)	(6.2)	(6.7)
(1.9)	(1.1)	(1.2)	(1.6)	T	106-112	118-124	130-136	142-148	154-160	166-172	178-184	190-196	202-208	214-220	226-232
				T	(4.2)	(4.6)	(5.1)	(5.6)	(6.1)	(6.5)	(7.0)	(7.5)	(7.9)	(8.4)	(8.9)

CAM SWITCHES TO 1200 AMPS

mm inches

FRONT MOUNT

CAM SWITCHES
TO 1200 AMPS



Type	A	H	X.max	Dim	Number of contact chambers										
					1	2	3	4	5	6	7	8	9	10	11
VN32	72 (2.8)	34 (1.3)	4(.16)	L	44(1.7)	60(2.4)	76(3.0)	92(3.6)	108(4.3)	124(4.9)	140(4.9)	156(6.1)	172(6.8)	188(7.4)	204(8.0)
VN50	96 (3.8)	44 (1.7)	4(.16)	L	49(1.9)	68(2.7)	86(3.4)	105(4.1)	123(4.8)	142(5.6)	160(6.3)	179(7.0)	197(7.8)	216(8.6)	234(9.2)
VN80	96 (3.8)	44 (1.7)	4(.16)	L	57(2.2)	81(3.2)	105(4.2)	129(5.1)	153(6.0)	177(7.0)	201(7.9)	225(8.9)	249(9.8)	273(10.7)	297(11.7)
VN125	125 (4.9)	60 (2.4)	4(.16)	L	77(3.0)	108(4.3)	139(5.5)	170(6.7)	201(7.9)	232(9.1)	263(10.4)	294(9.8)	325(12.8)	356(14.0)	387(15.2)
VN200	125 (4.9)	60 (2.4)	4(.16)	L	77(3.0)	108(4.3)	139(5.5)	170(6.7)	201(7.9)	232(9.1)	263(10.4)	294(9.8)	325(12.8)	356(14.0)	387(15.2)

Utilization categories for alternating current switches as defined in IEC 947 (EN 60947) regulations		Test Load on the Switch Current				
Utilization category	Examples of typical application	Normal make	operation break	Inrush make	Tests break	Cos
AC-21	Non inductive or slightly inductive loads, resistance furnace	I_e	I_e	$1.5 I_e$	$1.5 I_e$	0.95
AC-2	Slipping motor starting without reversing, without reverse current braking	$2 I_e$	$2 I_e$	$4 I_e$	$4 I_e$	0.65
AC-22	On-Off switching of inductive loads cos	I_e 0.8	I_e 0.8	$3 I_e$	$3 I_e$	0.65
AC-3	Direct line starting of squirrel cage motors, switching off while running	$2 I_e$	$2 I_e$	$10 I_e$	$8 I_e$	(3)
AC-23	Switching of motors (Main Switch) cos	I_e 0.65	I_e 0.65	$10 I_e$	$8 I_e$	(3)
AC-4	Direct line starting of squirrel cage motors (2)	$6 I_e$	$6 I_e$	$12 I_e$	$10 I_e$	(3)
AC-15	Control switching for switching magnetics devices contactors, valves, pull-type magnets	$10 I_e$	I_e	$10 I_e$	$10 I_e$	0.3

CAM SWITCHES TO 1200 AMPS

I_e = Rated operating current

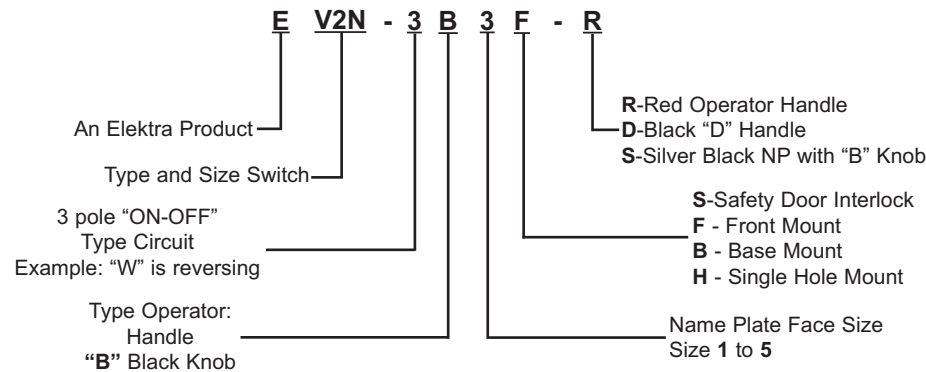
(2) Inching (jogging) or energizing a motor for short periods of time to obtain small increments of movement.

Plugging-stopping or reversing the motor rapidly by reversing motor primary connections while the motor is running.


(3) $I_e \leq 100A \cos 0.45$; $I_e \geq 100A \cos 0.35$

CATALOG NUMBER CODE VN SERIES

EXAMPLE:



UL/CSA Rating

Switch Size			V2N	V3N	VN32	VN50	VN80	VN125	VN200
Canada/USA		V•	600	600	600	600	600	600	600
General Use	600V ac max. 3 phase	A	25	35	50	60	100	100	200
Motor 3 phase	240 V	hp	5	7.5	10	20	25	30	40
	480 V	hp	10	15	25	40	50	60	75
	600 V	hp	10	20	20	30	50	50	100
Single phase	120 V	hp	2	2	3	5	5	7.5	10
	240 V	hp	2	3	7.5	10	15	15	20

Note: Above UL/CSA ratings are as submitted to UL.

⁽¹⁾ only CSA tested

International Rating

Switch Size		V2N	V3N	VN32	VN50	VN80	VN125	VN200	
Rated insulating voltage IEC 947 (111/3)	v•	690	690	690	690	690	690	690	
Rated impulse voltage IEC 947 (111/3)	KV	6	6	6	6	6	6	6	
Thermal rated current open with max. wire cross section (without connections)	I _{th}	A	25	32	63	80	115	150	250
Connectable cross sections single resp. multi-strand	mm ²	0.75-4	1-6	2.5-10	2.5-16	4-35	16-50 ⁽¹⁾	35-120 ⁽¹⁾	
Fine wire with core end bush (DIN 46 228)	mm ²	0.75-2.5	0.75-4	1.5-6	2.5-10	2.5-25	-	-	
Terminal Screws		M4	M4	M5	M5	2xM4	M8	M10	
Short-circuit protection, fusible cut out	gL or aM	A max.	25	35	63	80	125	160	250
Properties of main switches									
Requirements for isolators compiled with up to	v•	• 690	• 690	• 690	• 690	• 690	• 690	• 690	
Clear indication of switching position									
Switching capacity under alternating voltage conditions									
AC-21									
Load break switches									
Rated operating current	I _e	A	25	32	50	63	115	150	250
Rated operating voltage	U _e	v•	690	690	690	690	690	690	
AC-23		220...240V, 3• kW	5.5	7.5	11	22	30	45	55
Motor switches (main switches)		380...440V, 3• kW	11	15	22	30	55	75	90
		500V, 3• kW	-	-	18.5	30	45	90	110
		660...690V ⁽²⁾ 3• kW	-	-	18.5	22	30	45	45
AC-3		220...240V, 3• kW	4	7.5	7.5	11	22	30	37
Motor switches for operational switching		380...440V, 3• kW	7.5	11	15	22	37	55	65
		500V, 3• kW	7.5	11	18.5	30	45	75	90
		660...690V ⁽²⁾ 3• kW	11	15	18.5	22	30	45	45
AC-4		220...240V, 3• kW	1.1	2.2	2.2	3	4	7.5	11
Motor switches inching counter current breaking		380...440V, 3• kW	2.2	3	5.5	7.5	11	18.5	22
		500V, 3• kW	2.2	3	5.5	7.5	15	22	30
		660...690V ⁽²⁾ 3• kW	3	4	5.5	7.5	7.5	15	15
AC-15 Control switches	I _e at 220-240/380-440/500V	A	6/4/-	9/6/-	16/8/7	-	-	-	-

⁽¹⁾ with DIN cable lug

⁽²⁾ Rated mains voltage DIN IEC 38