

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

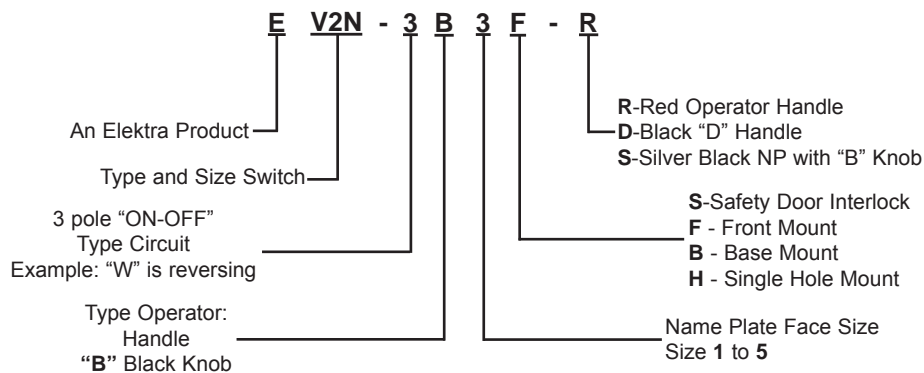
CAM SWITCHES TO 1200 AMPS

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