

# CAM SWITCHES

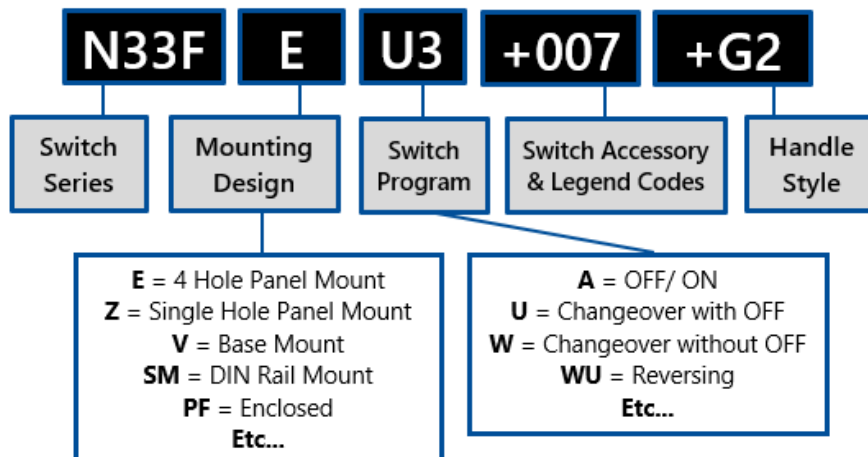
## General Overview



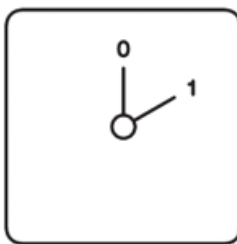
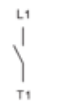
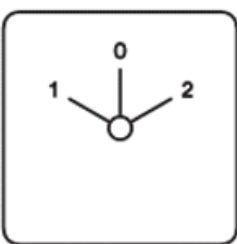

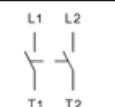
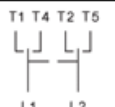
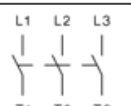
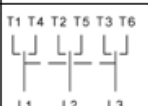
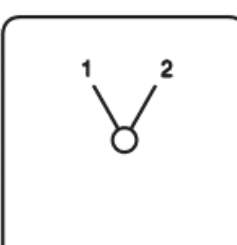

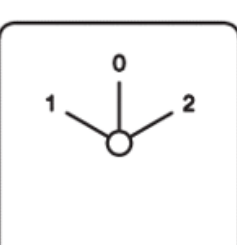
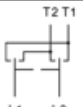
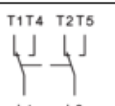
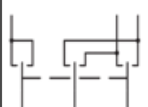
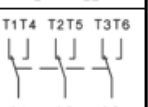
Switch Series	M10HD	M10H	M20	N20	N33F	N61	N80	N100	N200	L400
Rated Thermal Current UL - General Use (A)	10	20	25	25	40	90	125*	130	250	350
Rated Thermal Current IEC - I <sub>th</sub> Open (A)	20	20	32	32	50	85	115	150	250	400
Rated Voltage (V)	600	600	600	600	600	600	600	600	600	600
DOL Rating 3 Phase - 440-480V (hp)	-	5	10	10	25	35	40	40	60	60

\*with terminal lugs

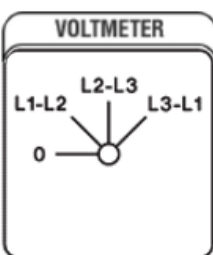
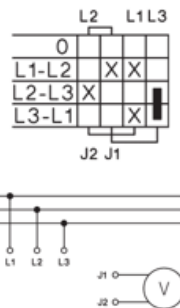
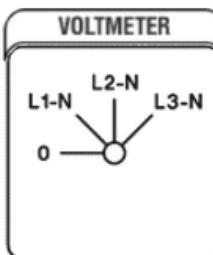
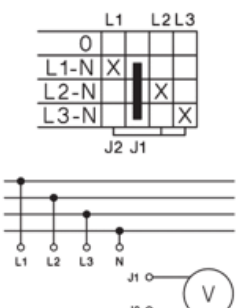
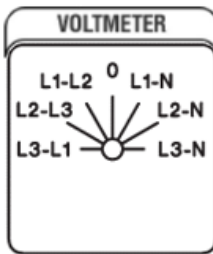
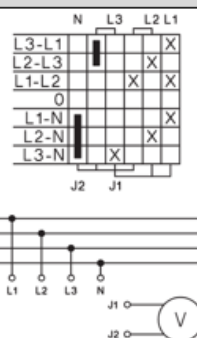
### Ordering Code Example:




## OFF-ON, Changeover & Reversing Switch Programs

OFF / ON Switches	Ordering Code*	Description	Diagram	Changeover Switches (With OFF)	Ordering Code*	Description	Diagram
	A1	1 Pole			U1	1 Pole	
	A2	2 Pole			U2	2 Pole	
	A3	3 Pole			U3	3 Pole	
<i>60° switching angle</i>				<i>60° switching angle</i>			
Changeover Switches (Without OFF)	Ordering Code*	Description	Diagram	Reversing Switches	Ordering Code*	Description	Diagram
	W1	1 Pole			WU2	2 Pole	
	W2	2 Pole			WU3	3 Pole	
	W3	3 Pole			<i>60° switching angle</i>		
<i>60° switching angle</i>				<i>60° switching angle</i>			

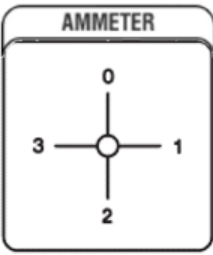
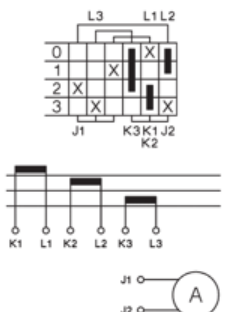
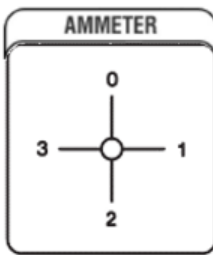
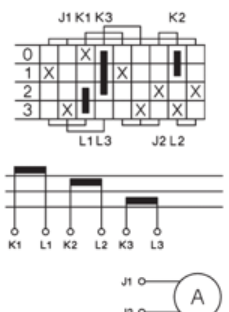
## Voltmeter Selector Switch Programs


3 Line Voltages	Ordering Code*	Diagrams	3 Phase Voltages	Ordering Code*	Diagrams
	<b>V3</b>			<b>V0</b>	
<i>45° switching angle</i>			<i>45° switching angle</i>		
3 Line Voltages & 3 Phase Voltages	Ordering Code*	Diagrams			
	<b>V1</b>				
<i>30° switching angle</i>					


 Addition of secondary legend plate reading "Voltmeter" is special ordering code "+504"

*\*Please refer to our full catalog for in depth listing of switch programs, as customized cam switch options are endless.*




## Ammeter Selector Switch Programs

Common Ground 1 pole, for 3 current transformers	Ordering Code*	Diagrams	Pass Through 2 pole, for 3 current transformers or direct current measurement in 3 phases	Ordering Code*	Diagrams
 <p style="text-align: center;"><b>M31</b></p> <p style="text-align: center;"><i>90° switching angle</i></p>	<b>M31</b>		 <p style="text-align: center;"><b>M32</b></p> <p style="text-align: center;"><i>90° switching angle</i></p>	<b>M32</b>	


 *Addition of secondary legend plate reading "Ammeter" is special ordering code "+503"*

*\*Please refer to our full catalog for in depth listing of switch programs, as customized cam switch options are endless.*

## Knob & Handle Options

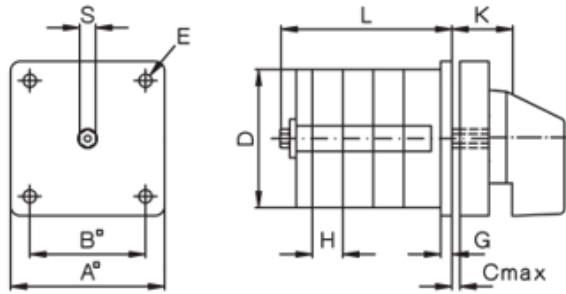
Style	Description	Colors	Ordering Code	M10H M20	N20 N33F	N61 N80	N100 N200 L400
	<b>Instrument Knob</b> (Standard for M10H to N200)	gray black red white	+G1 +G2 +G3 +G5	X X X X	X X X X	X	X
	<b>Toggle Knob</b>	gray black red white blue	+K1 +K2 +K3 +K5 +K6	X X X X X	X X X X		
	<b>Hand Wheel</b>	black	+HR				X

## Padlockable Handle Options

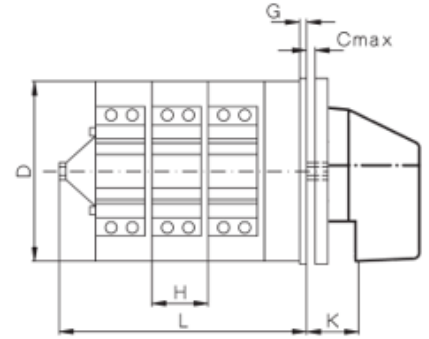
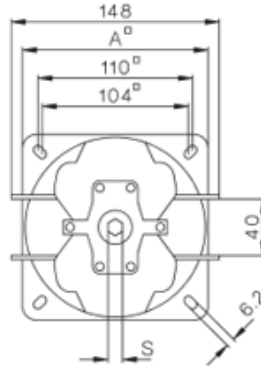
Style	Description	Ordering Code	Suitable for Switch Series
	Black & Silver, 48x48mm	<b>+SV1</b>	M10H, M20
	Red & Yellow, 48x48mm	<b>+SV1R</b>	M10H, M20
	Black & Silver, 64x64mm	<b>+SV164</b>	M10H, N20, N33F
	Red & Yellow, 64x64mm	<b>+SV164R</b>	N20, N33F
	Black with Silver Plate & Black Knob	<b>+SV3</b>	N61, N80, N100, N200, L400
	Black with Yellow Plate & Red Knob	<b>+SV3R</b>	N61, N80, N100, N200, L400

## Panel Mount Dimensions

### Panel mounting E M10 - N100



### N200

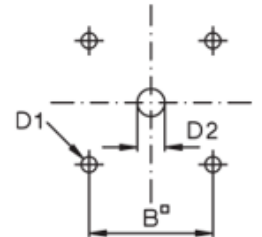


Type	A	B	C	D	D1	D2	D3	E	G	H	KS
M10H	48	36	5	44 <sup>1)</sup>	5	8	-	4	3,5	9,5	19
M20	48	36	5	56	5	8	57	4	3,5	12,5	19
N20	64	48	5	56	5	12	57	4,2	3	12,5	20
N33F	64	48	5	58 <sup>2)</sup>	5	12	-	4,2	3	15,5	20
N40	86	68	7	80	6	12	82	5,2	3,5	18	24,5
N61	86	68	7	80	6	12	82	5,2	3,5	29,5	24,5
N80	86	68	7	80	6	12	82	5,2	3,5	29,5	24,5
N100	132	110	9	128	7	16	129	6,2	5	30	37
N200	132	110	9	128	7	16	-	6,2	5	40	37

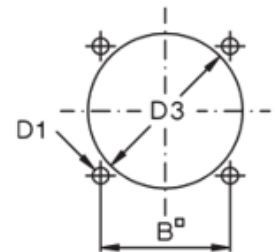
1) 44,5 x 42

2) 58 x 58

**Mounting holes:** built in from ear  
Mounting screw: J3631N M=1,2-1,4 Nm



**Mounting holes:** built in from front



Type	Dimension L with .. cells														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
M10H	36,5	46	55,5	65	74,5	84	93,5	103	112,5	122	131,5	141	-	-	-
M20	38,5	51	63,5	76	88,5	101	113,5	126	138,5	151	163,5	176	-	-	-
N20	40,5	53	65,5	78	90,5	103	115,5	128	140,5	153	165,5	178	190,5	203	215,5
N33F	44	59,5	75	90,5	106	121,5	137	152,5	168	183,5	199	214,5	230	245,5	261
N40	52,5	70,5	88,5	106,5	124,5	142,5	160,5	178,5	196,5	214,5	232,5	250,5	268,5	286,5	304,5
N61	64	93,5	123	152,5	182	211,5	241	270,5	300	329,5	359	388,5	-	-	-
N80	64	93,5	123	152,5	182	211,5	241	270,5	300	329,5	359	388,5	-	-	-
N100	88	118	148	178	208	238	268	298	328	358	388	418	-	-	-
N200	96	136	176	216	256	296	336	376	416	456	496	536	-	-	-



### Additional Customizations Available:

- Custom Designed Switch Programs
- Custom Engraved Legend Plates
- Padlock Device (Handle)
- Keylock Device (Handle)
- Moisture Proofing & Dust Covers
- Custom Switching Angles
- Door Coupling Mechanism
- Angled Terminals
- Fast-on Connectors
- And more...



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