





Transducers & Isolators

Temperature Controllers

Converters & Recorders

Digital Panel Meters

Current Transformers

Analogue Panel Meters

Shunts

Digital Multimeters

Clamp Meters

Insulation Testers

ROTARY CAM SWITCHES CAM SERIES

User Manual - Issue 1.1



Features

- → Compact Size
- → Reliable Design
- → Multi pole
- → Quick & Easy to Installation
- → High Protection Class





Sifam Tinsleys New Cam I,C,M &INS rotary cam Switches offer a complete range of cam switches for control, instrumentation and motor starting applications, maximizing the benefits and optimizing your use of asset

1. Product Features

- Compact Size
 Different contact design, contact material & terminals allows us to make them compact.
- Reliable Design
 These switches are tested in various laboratories as per National and International standards for performance and user safety.
- Multi pole

 Multi pole design with multiple stacks gives freedom to user to use same switch in different/multiple application
- Quick & Easy to Installation
 Captive +/- screw save installation time. The integrated screw driver
 guides (available in 20A size) make the use of motorized screw driver
 easy & stable. Lug terminals for connecting cable
 clamps & crimp plugs available forall sizes.
- High Protection Class
 Finger touch proof tunnel terminal provides IP 20 protection in Cam
 20A, eliminate the risk of touching live parts without adding any
 protective covers.

2. Application

- ON-OFF Switches
- Change over Switches
- Multi-step Switches
- Volt-Ammeter Switches
- Selector Switches
- Mains Switching
- Coolant Pumps

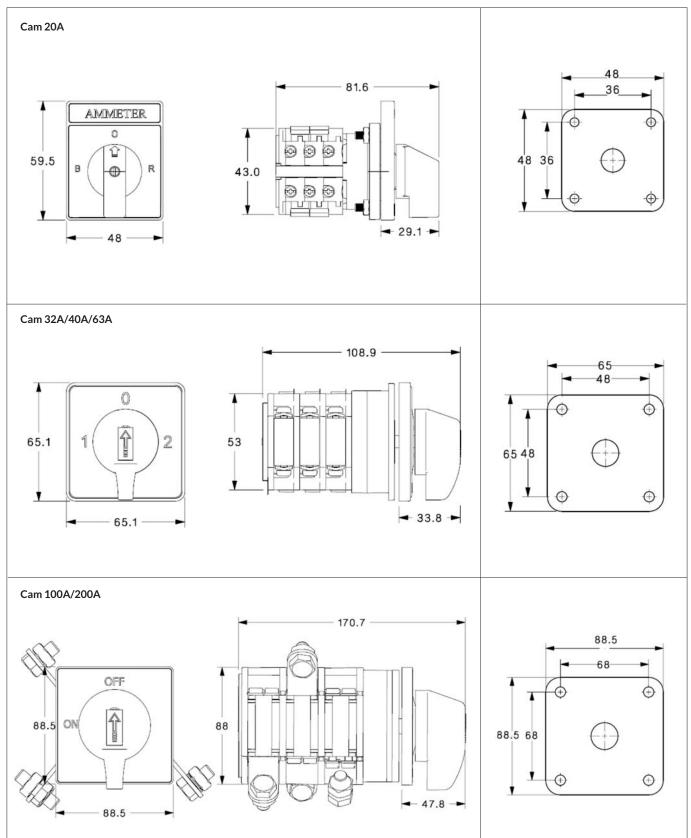
A focused standard range of Cam series Rotary Cam Switches cover most applications with different contact designs, contact material and terminals allow their use as control switches, instrumentation switches and motor control switches, as well as in electronic circuitry and in aggressive environment according to IEC/EN 60947-3 and VDE 0660 part 107.





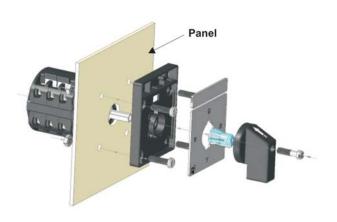
3. Rotary Cam Switches Dimensional Drawings

Panel Mounting





4. Installation



5. Technical Data

PARAMETER	STANDARD	20A	32A	40A	63A	100A	200A	UNIT
				V	ALUE			
Rated Insulation Voltage (Ui)	IEC 60947-3, EN 60947-3 VDE 0660 part 107 SEV	690 660	690 690	690 690	690 690	690 690	690 -	V
Rated Impulse Withstand Voltage Uimp		6	6	6	6	6	6	KV
Rated Thermal Current (Iu/ Ith)	IEC 60947-3, EN 60947-3 VDE 0660 part 107 SEV 380V 660V	20 16 12	32 32 32	40 40 40	63 63 63	100 100 -	200	A A A
Rated operational Current (Ie)								
AC-21A Switching of resistive loads, including moderate overloads	IEC 60947-3, EN 60947-3 VDE 0660 part 107	20	32	40	63	100	200	А
AC-1 Resistive or low Inductive Loads	SEV 380V 660V	16 12	32 32	40 40	63 63	100	-	A A
AC-22A Switching of Combined resistive or low inductive loads including moderate overloads	IEC 60947-3, EN 60947-3 VDE 0660 part 107 220V-500V 660V-690V	20 20	32 32	40 40	63 63	100 100	150 125	A A
AC-15 Switching of control devices, contactors, valves etc.	IEC 60947-3, EN 60947-3 VDE 0660 part 107 220V-240V 380V-440V	5 4	12 6	14 6	16 7			A A
Breaking Capacity	220V-240V 380V-440V 660V-690V	150 150 80	280 250 150	290 290 170	440 440 260	860 860 400	1100 1100 490	A A A
Ambient Temperature of Stages open at 100% (lu/lth) Enclosed at 100% (lthe)	55°C during 24 hours with peaks up to 600C 35°C during 24 hours with peaks up to 400C							



6. CAM Series

FEATURES

- COMPACT & RELIABLE
- MULTIPOLE
- EASY INSTALLATION
- · TERMINAL SCREWS WITH FIXED CLAMP

APPLICATIONS

- MAINS SWITCHING
- · BREAKER CONTROL
- COOLANT PUMPS
- · CONTROL CIRCUITS
- INSTRUMENTATION
- ISOLATORS
- · CHANGEOVER SWITCH

CAM-I

- CAM-I60
- CAM-190
- CAM-I90 CR
- CAM-I45

CAM-C

- · CAM-COFF 60 · CAM-COFF 90
- CAM-CWOFF 90
- CAM-PC 90

CAM-M

- · CAM-MOFF (3W) · CAM-MOFF (4W)
- · CAM-MOFF (5W)
- · CAM-MOFF (6W)
- · CAM-MOFF (7W)
- · CAM-MOFF (8W)

(ISOLATORS)

(Isolators 60D Rotation)

(Isolators 90D Rotation) (Isolators 90D Complete Rotation)

(Isolators 45 D)

(CHANGEOVER)

(Change over with Off 60 D Rotation) (Change over with Off 90 D Rotation) (Change over with out Off 90 DRotation) (Phase Change over 90 D Rotation

(MULTISTEP)

(Multi step with Off 3 Way) (Multi step with Off 4 Way) (Multi step with Off 5 Way)

(Multi step with Off 6 Way) (Multi step with Off 7 Way) (Multi step with Off 8 Way)

- · CAM-MOFF (9 W)
- CAM-MOFF (10 W)
- CAM-MOFF (11 W)
- · CAM-MWOFF (3 W) · CAM-MWOFF(4 W)
- · CAM-MWOFF(5 W)
- · CAM-MWOFF(6 W)
- · CAM-MWOFF(7 W)

- · CAM-MWOFF(8 W)
- · CAM-MWOFF(9 W)
- · CAM-MWOFF(10 W)
- CAM-MWOFF(11 W)
- CAM-MWOFF(12 W)

- CAM-INS · CAM-AMP
- · CAM-VOLT

- (Multi step with Off 9 Way)
 - (Multi step with Off 10 Way)
- (Multi step with Off 11Way)

(Multi step without Off 3 Way)

(Multi step without Off 4 Way)

(Multi step without Off 5 Way)

(Multi step without Off 6 Way)

(Multi step without Off 7 Way)

(Multi step without Off 8 Way) (Multi step without Off 9 Way)

(Multi step without Off 10 Way)

(Multi step without Off 11 Way) (Multi step without Off 12 Way)

(INSTRUMENT SWITCHES)

(Ammeter Selector Switch) (Voltmeter Selector Switch)

CAM-I



CAM-160									
DESCRIPTION			CL	JRR	ENT	RAT	ING		
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A
1P ON-OFF	*	*	*	*	*	*	*	*	*
2P ON-OFF	*	*	*	*	*	*	*	*	*
2D ON OFF	1	- 12	11527		1040	100	12.00	1240	- 2

OFFERED UP TO 12 POLES

CAM-C



CAM-COFF 60

DESCRIPTION	CURRENT RATING											
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A			
1P 2W - OFF	*	*	*	*	*	*	*	*	*			
2P 2W - OFF	*	*	*	*	*	*	*	*	*			
3P 2W - OFF	*	*	*	*	*	*	*	*	*			

OFFERED UP TO 6 POLES

0

CAM-ION

DECCRIPTION		CURRENT RATING 6A 10A 16A 25A 32A 40A 63A 100A 200											
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A				
1P ON-OFF	*	*	*	*	*	*	*	*	*				
2P ON-OFF	*	*	*	*	*	*	*	*	*				
3P ON-OFF	*	*	*	*	*	*	*	*	*				

Offered Up To 12 Poles

0

CAM-COFF90

DESCRIPTION									
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A
1P 2W - OFF	*	*	*	*	*	*	*	*	*
2P 2W - OFF	*	*	*	*	*	*	*	*	*
3P 2W - OFF	*	*	*	*	*	*	*	*	*

Offered Up To 6 Poles

(A) OFF

CAM-I90CR	A.												
DESCRIPTION		CURRENT RATING											
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A				
1P ON-OFF	*	*	*	*	*	*	*	*	*				
2P ON-OFF	*	*	*	*	*:	*	*	(*)	*				
3P ON-OFF	*	*	*	*	*	*	*	*	*				

Offered Up To 12 Poles

A

CAM-CWOFF90

DESCRIPTION		CURRENT RATING											
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A				
1P 2W - W0FF	*	*	*	*	*	*	*	*	*				
2P 2W - WOFF	*	*	*	*	*	*	*	*	*				
3P 2W - WOFF	*	*	*	*	*	*	*	*	*				

Offered Up To 6 Poles

OFF 0

CAM-145

DESCRIPTION	CURRENT RATING											
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A			
1P ON-OFF	*	*	*	*	*	*	*	-				
2P ON-OFF	*	*	*	*	*	*	*	-				
3P ON-OFF	*	*	*	*	*	*	*					

Offered Up To 12 Poles



CAM-PCF90									
DESCRIPTION									
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A
1P 3W -0FF	*	*	*	*	*	*	*	*	*
2P 3W -0FF	*	*	*	*	*	*	*	*	*
3P 3W -0FF	*	*	*	*	*	*	*	*	*



CAM-M





DECODIDATION		CURRENT RATING											
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A				
1P 3W - OFF	*	*	*	*	*	*	*	*	*				
2P 3W - OFF	*	*	*	*	*	*	*	*:	*				
3P 3W - OFF	*	*	*	*	*	*	*	*	*				
4P 3W - OFF	*	*	*	*	*	*	*	*	*				



CAM-MOFF (7 WAY)

DESCRIPTION	CURRENT RATING 6A 10A 16A 25A 32A 40A 63A 100A 200A											
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A			
1P 7W - OFF	*	*	*	*	*	*	*	-	~			



CAM-MOFF (4 WAY)

DESCRIPTION			CL	JRR	ENT	RAT	ING		
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A
1P 4W - OFF	*	*	*	*	*	*	*	*	*
2P 4W - OFF	*	*	*	*	*	*	*	*	*
3P 4W - OFF	*	*	*	*	*	*	*	*	*



CAM-MOFF (8 WAY)

DESCRIPTION		CURRENT RATING 6A 10A 16A 25A 32A 40A 63A 100A 20									
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A		
1P 8W - OFF	*	*	*		-			-			



CAM-MOFF (5 WAY)

DESCRIPTION		CURRENT RATING											
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A				
1P 5W - OFF	*	*	*	*	*	*	*	*	*				
2P 5W - OFF	*	*	*	*	*	*	*	*	*				



CAM-MOFF (9 WAY)

DESCRIPTION			CI	JRR	ENT	RAT	ING		
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A
1P 9W - OFF	*	*	*	:	-	100	-		



CAM-MOFF (6 WAY)

DESCRIPTION			CL	CURRENT RATING					
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A
1P 6W -OFF	*	*	*	*	*	*	*		
2P 6W -OFF	*	*	*	*	*	*	*		



CAM-MOFF (10 WAY)

DESCRIPTION		CURRENT RATING 6A 10A 16A 25A 32A 40A 63A 100A 200A										
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A			
1P 10W - OFF	*	*	*	(5)	:::	:::	-	30	-			



CAM-MOFF (11 WAY)

DESCRIPTION		CURRENT RATING 6A 10A 16A 25A 32A 40A 63A 100A 200A										
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A			
1P 11W - 0FF	*	*	*	-	-	-	-	-	-			



CAM-MWOFF (6 WAY)

DESCRIPTION		_	_	REN	NT R	ATIN	IG		
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A
1P 6W - WOFF	*	*	*	*	*	*	*	*	*
2P 6W - WOFF	*	*	*	*	*	*	*	*	*



CAM-MWOFF (3 WAY)

DESCRIPTION	CURRENT RATING											
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A			
1P 3W - WOFF	*	*	*	*	*	*	*	*	*			
2P 3W - W0FF	*	*	*	*	*	*	*	*	*			
3P 3W - W0FF	*	*	*	*	*	*	*	*	*			
4P 3W - WOFF	*	*	*	*	*	*	*	*	*			



CAM-MWOFF (7 WAY)

DESCRIPTION			CL	JRRI	ENT	RAT	ING		
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A
1P 7W - WOFF	*	*	*	*	*	*	*	*	-



CAM MWOFF (4 WAY)

DESCRIPTION			CI	RAT	ING				
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A
1P 4W - W0FF	*	*	*	*	*	*	*	*	*
2P 4W - W0FF	*	*	*	*	*	*	*	*	*
3P 4W - WOFF	*	*	*	*	*	*	*	*	*



CAM-MWOFF (8 WAY)

DESCRIPTION		CURRENT RATING 6A 10A 16A 25A 32A 40A 63A 100A 200										
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A			
1P 8W - WOFF	*	*	*	*	*	*	*	-	-			



CAM-MWOFF (5 WAY)

DESCRIPTION		CURRENT RATING											
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A				
1P 5W - WOFF	*	*	*	*	*	*	*	*	*				
2P 5W - W0FF	*	*	*	*	*	*	*	*	*				



CAM-MWOFF (9 WAY)

CHINI-INIAAOL	1 (3	AA 1-	,										
DESCRIPTION	CURRENT RATING 6A 10A 16A 25A 32A 40A 63A 100A 200A												
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A				
1P 9W - WOFF	*	*	*	7.5					-				





CAM-MWOFF (10 WAY)

DESCRIPTION	CURRENT RATING 6A 10A 16A 25A 32A 40A 63A 100A 200A												
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A				
1P 10W - WOFF	*	*:	*		.71	-	-	*	-				



AMMETER SELECTOR SWITCH

DESCRIPTION	CURRENT RATING											
	6A	10A	16A	25A	32A	40A	63A	100A	200A			
Line Currents with OFF	*	*	*	-	-	-	-	-	-			



CAM MWOFF (11 WAY)

DESCRIPTION	CURRENT RATING 6A 10A 16A 25A 32A 40A 63A 100A 200A											
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A			
1P 11W - WOFF	*	*	*	-	-	-	2	- 4				



VOLTMETER SELECTOR SWITCH

DECODIDATION	CURRENT RATING										
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A		
Voltage Between Phases with OFF	*	*	*	-	. 4	3	-	7	-		



CAM-MWOFF (12 WAY)

DESCRIPTION	CURRENT RATING												
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A				
1P 12W - WOFF	*	*	*	-	-	-	-	- 1	-				



VOLTMETER SELECTOR SWITCH

DECODIDATION	CURRENT RATING											
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A			
Voltage Between Phases & Individual Phases to neutral with OFF	*	*	*	/ *	-				14			

CAM-INS



AMMETER	SELECTOR	SWITCH

DESCRIPTION	CURRENT RATING											
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A			
Line Currents with Off	*	*	*	-		-		-	2.7			



VOLTMETER SELECTOR SWITCH

	CURRENT RATING											
DESCRIPTION	6A	10A	16A	25A	32A	40A	63A	100A	200A			
Voltage Between Phase to neutral with OFF	*	*	*		-	*		×	**			

7. Ordering Information

Example

1) Customer Requirement : 16A, multi step, without off, 1Pole 12 Way

Ordering code: CAM - MWOFF (12WAY)

1P 12W - WOFF, 16A

2) Customer Requirement: 100A, Change over, without off, 90D rotation, 3 Pole 2 Way

Ordering code: CAM - CWOFF90

3P 2W - WOFF, 100A



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