



sifam tinsley
PRECISION INSTRUMENTATION



Multifunction Meters

Transducers & Isolators

Temperature Controllers

Converters & Recorders

Digital Panel Meters

Current Transformers

Analogue Panel Meters

Shunts

Digital Multimeters

Clamp Meters

Insulation Testers

CAM SWITCHES

Powered by technology
...driven by service



CST SERIES CAM Switches

- Complete range of cam switches for control, instrumentation and motor starting applications.
- Available for currents from 6 A to 200 A.
- Quick and easy installation.
- Compact size with many switching programs.
- Multi pole design.
- Long distance visibility.
- Touch-proof terminals with IP20 protection.

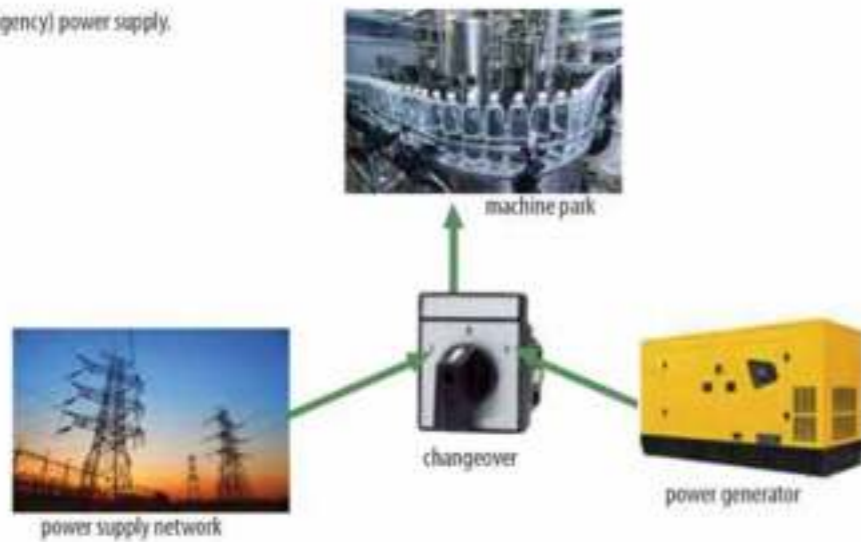
TYPES:

- CST1 - CHANGEOVER**
- CST2 - MULTI-STEP**
- CST3 - ISOLATOR**
- CST4 - SELECTOR / INSTRUMENT**

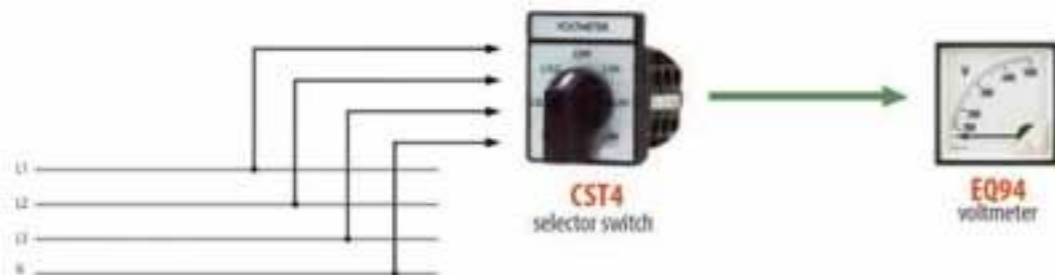


APPLICATION EXAMPLES

Switching on the (emergency) power supply.

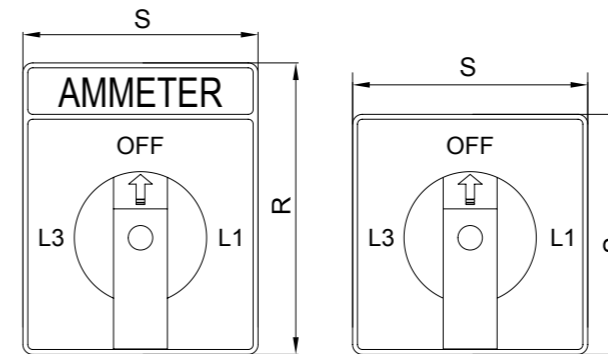
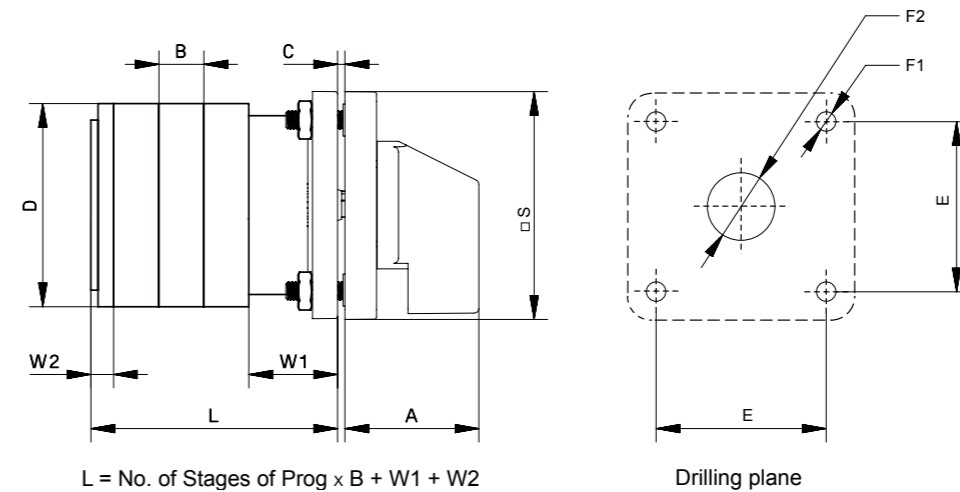


Measurement of phase and phase-to-phase voltage using only one voltmeter.



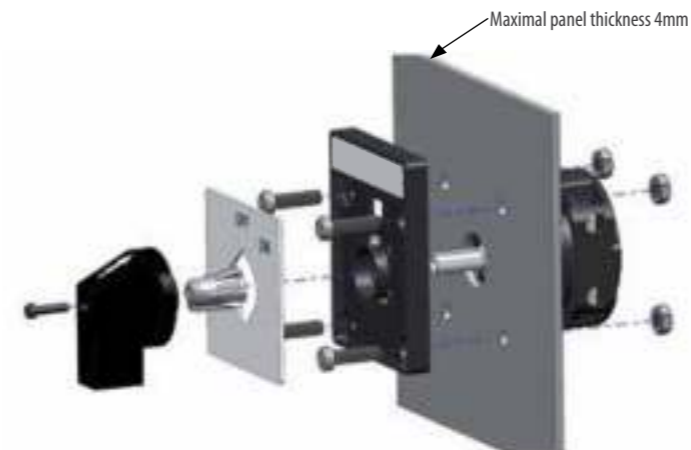
CAM Switches

EXTERNAL DIMENSIONS



Type	A	B	C _(max)	D	E	F1	F2	R	S	W1	W2
6 A	29 mm	9.7 mm	4 mm	32 mm	36 mm	4 mm	8 mm	48 mm	48 mm	13 mm	7 mm
10 A	29 mm	9.5 mm	4 mm	43 mm	36 mm	4 mm	7 mm	60 mm	48 mm	19 mm	5 mm
16 A	29 mm	9.5 mm	4 mm	43 mm	36 mm	4 mm	7 mm	60 mm	48 mm	19 mm	5 mm
20 A	29 mm	9.5 mm	4 mm	43 mm	36 mm	4 mm	7 mm	60 mm	48 mm	19 mm	5 mm
25 A	34 mm	14.3 mm	4 mm	53 mm	48 mm	4 mm	12 mm	64 mm	64 mm	24 mm	6.2 mm
32 A	34 mm	14.3 mm	4 mm	53 mm	48 mm	4 mm	12 mm	64 mm	64 mm	24 mm	6.2 mm
40 A	34 mm	14.3 mm	4 mm	53 mm	48 mm	4 mm	12 mm	64 mm	64 mm	24 mm	6.2 mm
63 A	34 mm	14.3 mm	4 mm	53 mm	48 mm	4 mm	12 mm	64 mm	64 mm	24 mm	6.2 mm
100 A	49 mm	29 mm	4 mm	88 mm	68 mm	5.5 mm	18 mm	88 mm	88 mm	27 mm	7 mm
200 A	49 mm	29 mm	4 mm	88 mm	68 mm	5.5 mm	18 mm	88 mm	88 mm	27 mm	7 mm

INSTALLATION



AC DUTY RATINGS

Class	Application
AC-1	Non-Inductive or slightly inductive loads ($\cos\phi \geq 0,95$); Resistance furnaces
AC-3	Squirrel-cage motors: starting switching off motors during running
AC-15	Control of AC electromagnetic loads
AC-21-A	Switching of resistive loads, including moderate overloads (frequent switching)
AC-23-A	Switching of motor loads or other highly inductive loads (frequent switching)

CAM Switches

TECHNICAL DATA

PARAMETERS	UNIT	6 A	10 A	16 A	20 A	25 A	32 A	40 A	63 A	100 A	200 A	
Rated operational voltage (Ue)	V	440	440	690	690	690	690	690	690	690	690	
Rated Insulation voltage (Ui)	V	440	440	690	690	690	690	690	690	690	690	
Rated uninterupted current (Ith)	A	8	12	20	25	25	32	40	63	100	200	
Rated short time withstand current (Icw)	A	72	120	192*	240*	300	384	480	756	1200	2400	
Rated Impulse withstand voltage (Uimp)	kV	4	4	4	4	6	6	6	6	6	6	
Rated Fuse short circuit current	kA	3	3	5	5	10	10	10	10	15	25	
Fuse size (Type gG/ gM)	A	6	10	16	20	25	32	50	63	100	200	
The power of the receiver in terms of use												
AC23A 3 phase	220-240 V	kW	1.1	1.8	3	3.7	4.7	5.5	7.5	11	22	22
	380-440V	kW	1.8	3	5.5	7.5	7.5	11	15	18.5	37	37
	500V	kW	-	-	5.5	7.5	11	15	18.5	22	45	45
	660-690V	kW	-	-	5.5	7.5	11	15	18.5	22	45	45
AC23A 1 phase	110V	kW	0.25	0.37	0.55	0.75	1.5	2.2	2.2	3	-	-
	220-240V	kW	0.5	0.75	1.5	2.2	3	3.7	5.5	7.5	-	-
AC3 3 phase	380-440V	kW	0.75	1.1	2.2	3.7	5.5	7.5	7.5	11	-	-
	220-240V	kW	1.1	1.5	3	3	4.7	5.5	7.5	11	22	22
	500V	kW	-	-	5.5	5.5	11	15	18.5	22	45	45
AC3 1 phase	600-690V	kW	-	-	5.5	5.5	11	15	18.5	22	45	45
	110V	kW	0.25	0.3	0.55	0.6	1.5	2.2	2.2	3	-	-
AC3 1 phase	220-240V	kW	0.5	0.55	1.5	2.2	3	3.7	5.5	7.5	-	-
	380-440V	kW	0.75	0.75	2.5	3	5.5	7.5	7.5	11	-	-
AC21A/AC1	A	6	10	16	20	25	32	40	63	100	200	
AC15	220-240V	A	2	2.5	5	5	8	14	16	16	20	-
	380-440V	A	1	1.5	4	4	5	6	7	7	10	-
Terminal cross-section												
Single / Multiple	Min	mm ²	0.7	0.7	1.5	1.5	2.5	2.5	4	4	10	10
	Max	mm ²	1.5	1.5	4	4	4	6	10	16	35	70
Fine strand with sleeve	Min	mm ²	0.7	0.7	1	1	1.5	1.5	2.5	2.5	10	10
	Max	mm ²	1.5	1.5	2.5	2.5	4	4	6	16	35	50
Terminal screw	metric	M3	M3	M3	M3	M4	M4	M4	M4	M10	M10	
Terminal tightening torque	Nm	0.8	0.8	0.8	0.8	1.2	1.2	1.2	1.2	2.5	2.5	

* Rated short time withstand current (0.5s- current)

RATED OPERATING CONDITIONS

Frequency	50/60 Hz	
Operating temperature	-25°C...60°C	
Storage temperature	-40°C...80°C	
Installation category	III	
Altitude a.s.l.	2000 m	
Protection grade	IP50 from frontal side	IP20 from terminal side
Standards	IEC 60947-1, IEC 60947-3, IEC 60947-5	

SWITCH LIFE

Mechanical Life	100 000 operations at 300 cycles/hr	
Electrical Life	10 000 operations at 100% rated duty at 120 cycles/hr	
Contacts	double break	type AgNi
	double break	type AgCdO

CST1 SERIES Changeovers

WIRING DIAGRAMS AND CODING

CHANGEOVERS CST1

Ordering code CST1-__020F__00



Changeover CST1-		60L	020F			00
Rated current:						
6 A	A					
10 A	B					
16 A	C					
25 A	D					
32 A	E					
40 A	F					
63 A	G					
100 A	H					
200 A	I					
Pole:						
1 pole			1			
2 poles Note offered upto 6 poles			2			
....			...			
6 poles			6			
Front plate colour:						
silver background and black knob					A	
yellow background and red knob					Y	
Acceptance tests:						
without additional quality requirements						0
with an extra quality inspection certificate						1

Order Code examples

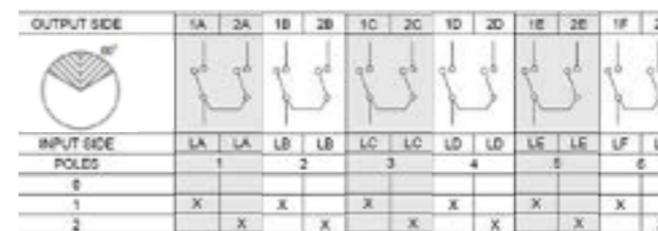
CST1-C60L1020FA000

- Changeover 16A, angle 60°, rotation angle <360°, 1 pole, 2 ways, with OFF, rectangular knob, silver background, black knob

CST1-C60L1020FY000

- Changeover 16A, angle 60°, rotation angle <360°, 1 pole, 2 ways, with OFF, rectangular knob, yellow background, red knob

Description	CST1								
	6A	10A	16A	25A	32A	40A	63A	100A	200A
Stage number									
1-polar 2-way + OFF	1	1	1	1	1	1	1	1	1
2-polar 2-way + OFF	2	2	2	2	2	2	2	2	2
3-polar 2-way + OFF	3	3	3	3	3	3	3	3	3
4-polar 2-way + OFF	4	4	4	4	4	4	4	4	4
5-polar 2-way + OFF	5	5	5	5	5	5	5	5	5
6-polar 2-way + OFF	6	6	6	6	6	6	6	6	6

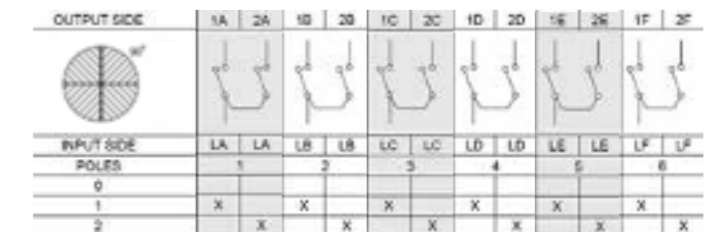


Ordering code CST1-__90T__020F__00



Changeover CST1-		90T	020F			00
Rated current:						
6 A	A					
10 A	B					
16 A	C					
25 A	D					
32 A	E					
40 A	F					
63 A	G					
100 A	H					
200 A	I					
Pole:						
1 pole			1			
2 poles Note offered upto 6 poles			2			
....			...			
6 poles			6			
Front plate colour:						
silver background and black knob					A	
yellow background and red knob					Y	
Acceptance tests:						
without additional quality requirements						0
with an extra quality inspection certificate						1

Description	CST1								
	6A	10A	16A	25A	32A	40A	63A	100A	200A
Stage number									
1-polar 2-way + OFF	1	1	1	1	1	1	1	1	1
2-polar 2-way + OFF	2	2	2	2	2	2	2	2	2
3-polar 2-way + OFF	3	3	3	3	3	3	3	3	3
4-polar 2-way + OFF	4	4	4	4	4	4	4	4	4
5-polar 2-way + OFF	5	5	5	5	5	5	5	5	5
6-polar 2-way + OFF	6	6	6	6	6	6	6	6	6



CST2 SERIES Multisteps

WIRING DIAGRAMS AND CODING

MULTI-STEPS CST2

Ordering code CST2- 30T112WF _ 00



Multi-step CST2-		30T112WF	00
Rated current:			
6 A	A		
10 A	B		
16 A	C		
Front plate colour:			
silver background and black knob		A	
yellow background and red knob		Y	
Acceptance tests:			
without additional quality requirements		0	
with an extra quality inspection certificate		1	

Description	CST2		
	6A	10A	16A
	Stage number		
1-polar 12-way without OFF	6	6	6

OUTPUT SIDE	1A 2A 3A 4A 5A 6A 7A 8A 9A 10A 11A 12A											
	1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A	12A
INPUT SIDE	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA
1	X											
2		X										
3			X									
4				X								
5					X							
6						X						
7							X					
8								X				
9									X			
10										X		
11											X	
12												X

CODING OF CST2 SERIES

Multi-step CST2-		0					F			00
Rated current:										
6 A	A									
10 A	B									
16 A	C									
25 A	D									
32 A	E									
40 A	F									
63 A	G									
100 A	H									
200 A	I									
Angle:										
30°	3									
45°	4									
60°	6									
90°	9									
	0									
Rotation angle:										
360°	T									
less than 360°	L									
Pole:										
1 pole	1									
2 poles	2									
3 poles	3									
4 poles	4									
No. of ways:										
3 ways	03									
4 ways	04									
....	...									
12 ways	12									
OFF way:										
without OFF	W									
with OFF	O									
Front plate colour:										
silver background and black knob		A								
yellow background and red knob		Y								
Acceptance tests:										
without additional quality requirements		0								
with an extra quality inspection certificate		1								
Version:										
standard	00									
custom-made*	XX									

* - only after agreeing with the manufacturer

CST3 SERIES Isolators

WIRING DIAGRAMS AND CODING

ISOLATORS CST3

Ordering code CST3- 60L_XXOF _ 00



Isolator CST3-		60L	XXOF	00
Rated current:				
6 A	A			
10 A	B			
16 A	C			
25 A	D			
32 A	E			
40 A	F			
63 A	G			
100 A	H			
200 A	I			
Pole:				
1 pole	1			
2 poles	2			
....	...			
9 poles	9			
10 poles	A			
11 poles	B			
12 poles	C			
Front plate colour:				
silver background and black knob		A		
yellow background and red knob		Y		
Acceptance tests:				
without additional quality requirements		0		
with an extra quality inspection certificate		1		

CST3-C60L3XXOFA000

- Isolator 16A, angle 60°, rotation angle <360°, 3 poles, with OFF, rectangular knob, silver background, black knob

CST3-C60L3XXOFY000

- Isolator 16A, angle 60°, rotation angle <360°, 3 poles, with OFF, rectangular knob, yellow background, red knob

Description	CST3								
	6A	10A	16A	25A	32A	40A	63A	100A	200A
	Stage number								
1-polar ON-OFF	1	1	1	1	1	1	1	1	1
2-polar ON-OFF	1	1	1	1	1	1	1	1	1
3-polar ON-OFF	2	2	2	2	2	2	2	2	2
4-polar ON-OFF	2	2	2	2	2	2	2	2	2
5-polar ON-OFF	3	3	3	3	3	3	3	3	3
6-polar ON-OFF	3	3	3	3	3	3	3	3	3

OUTPUT SIDE	1A 1B 1C 1D 1E 1F 1G 1H 1I 1J 1K 1L											
	1A	1B	1C	1D	1E	1F	1G	1H	1I	1J	1K	1L
INPUT SIDE	1A	1B	1C	1D	1E	1F	1G	1H	1I	1J	1K	1L
POLES	1	2	3	4	5	6	7	8	9	10	11	12
OFF												
ON	X	X	X	X	X	X	X	X	X	X	X	X

Ordering code CST3- 90L_XXOF _ 00



Isolator CST3-		90L	XXOF	00
Rated current:				
6 A	A			
10 A	B			
16 A	C			
25 A	D			
32 A	E			
40 A	F			
63 A	G			
100 A	H			
200 A	I			
Pole:				
1 pole	1			
2 poles	2			
....	...			
9 poles	9			
10 poles	A			
11 poles	B			
12 poles	C			
Front plate colour:				
silver background and black knob		A		
yellow background and red knob		Y		
Acceptance tests:				
without additional quality requirements		0		
with an extra quality inspection certificate		1		

Description	CST3								
	6A	10A	16A	25A	32A	40A	63A	100A	200A
	Stage number								
1-polar ON-OFF	1	1	1	1	1	1	1	1	1
2-polar ON-OFF	1	1	1	1	1	1	1	1	1
3-polar ON-OFF	2	2	2	2	2	2	2	2	2
4-polar ON-OFF	2	2	2	2	2	2	2	2	2
5-polar ON-OFF	3	3	3	3	3	3	3	3	3
6-polar ON-OFF	3	3	3	3	3	3	3	3	3

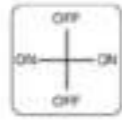
OUTPUT SIDE	1A 1B 1C 1D 1E 1F 1G 1H 1I 1J 1K 1L											
	1A	1B	1C	1D	1E	1F	1G	1H	1I	1J	1K	1L
INPUT SIDE	1A	1B	1C	1D	1E	1F	1G	1H	1I	1J	1K	1L
POLES	1	2	3	4	5	6	7	8	9	10	11	12
OFF												
ON	X	X	X	X	X	X	X	X	X	X	X	X

CST3 SERIES Isolators

WIRING DIAGRAMS AND CODING

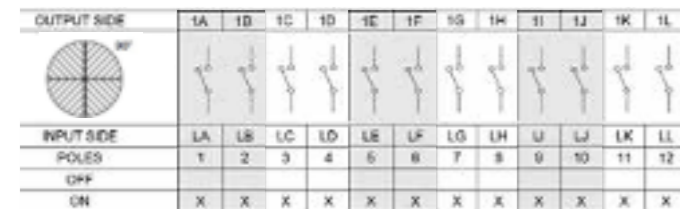
ISOLATORS CST3

Ordering code CST3- 90T_XXOF __ 00

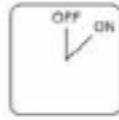


Isolator CST3-	90T	XXOF	00
Rated current:			
6 A	A		
10 A	B		
16 A	C		
25 A	D		
32 A	E		
40 A	F		
63 A	G		
100 A	H		
200 A	I		
Pole:			
1 pole		1	
2 poles		2	
....		...	
9 poles		9	
10 poles		A	
11 poles		B	
12 poles		C	
Front plate colour:			
silver background and black knob			A
yellow background and red knob			Y
Acceptance tests:			
without additional quality requirements			0
with an extra quality inspection certificate			1

Description	CST3								
	6A	10A	16A	25A	32A	40A	63A	100A	200A
	Stage number								
1-polar ON-OFF	1	1	1	1	1	1	1	1	1
2-polar ON-OFF	1	1	1	1	1	1	1	1	1
3-polar ON-OFF	2	2	2	2	2	2	2	2	2
4-polar ON-OFF	2	2	2	2	2	2	2	2	2
5-polar ON-OFF	3	3	3	3	3	3	3	3	3
6-polar ON-OFF	3	3	3	3	3	3	3	3	3

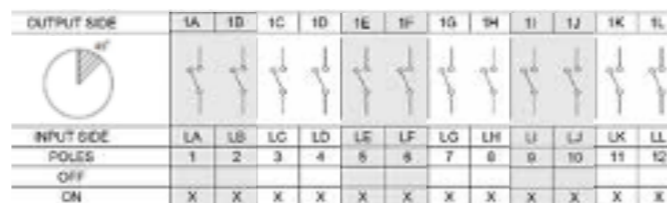


Ordering code CST3- 40L_XXOF __ 00



Isolator CST3-	40L	XXOF	00
Rated current:			
6 A	A		
10 A	B		
16 A	C		
25 A	D		
32 A	E		
40 A	F		
63 A	G		
Pole:			
1 pole		1	
2 poles		2	
....		...	
9 poles		9	
10 poles		A	
11 poles		B	
12 poles		C	
Front plate colour:			
silver background and black knob			A
yellow background and red knob			Y
Acceptance tests:			
without additional quality requirements			0
with an extra quality inspection certificate			1

Description	CST3						
	6A	10A	16A	25A	32A	40A	63A
	Stage number						
1-polar ON-OFF	1	1	1	1	1	1	1
2-polar ON-OFF	1	1	1	1	1	1	1
3-polar ON-OFF	2	2	2	2	2	2	2
4-polar ON-OFF	2	2	2	2	2	2	2
5-polar ON-OFF	3	3	3	3	3	3	3
6-polar ON-OFF	3	3	3	3	3	3	3



CST3 SERIES Isolators

WIRING DIAGRAMS AND CODING

ISOLATORS CST3

CODING OF CST3 SERIES

Isolator CST3-	0	XX	O	F	00
Rated current:					
6 A	A				
10 A	B				
16 A	C				
25 A	D				
32 A	E				
40 A	F				
63 A	G				
100 A	H				
200 A	I				
Angle:					
45°		4			
60°		6			
90°		9			
Rotation angle:					
360° *			T		
less than 360°			L		
Pole:					
1 pole				1	
2 poles				2	
....				...	
9 poles				9	
10 poles				A	
11 poles				B	
12 poles				C	
Front plate colour:					
silver background and black knob					A
yellow background and red knob					Y
Acceptance tests:					
without additional quality requirements					0
with an extra quality inspection certificate					1
Version:					
standard					00
custom-made**					XX

* - only for rotation angle 90°

** - only after agreeing with the manufacturer

Contact



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