

Cam switches

F-series



 **santon**
WWW.SANTONSWITCHGEAR.COM

• nokkenschakelaars F-serie

De F-serie heeft 2 typen, de F0 en F1, aanrakingsveilige nokkenschakelaars (IP20 volgens IEC 60529). Ze zijn ontworpen volgens moderne principes, rekening houdend met de laatste ontwikkelingen op het gebied van nokkenschakelaars. Hierbij worden alleen de beste isolatie- en contactmaterialen gebruikt. Ze onderscheiden zich door hun hoge schakelvermogen, elektrische en mechanische duurzaamheid en hun kleine afmetingen.

De nokkenschakelaars worden toegepast in hoofd- en hulp-circuits als: motorschakelaars (voor het starten en stoppen van 3-fase en 1-fase motoren) in de gebruikscategorieën AC3 of AC23 of als aan/uit schakelaars (om ohm'se belastingen of gering inductieve stromen te schakelen) in de gebruikscategorieën AC1 of AC21.

De nokkenschakelaars kunnen maximaal 12 standen hebben en zijn beschikbaar met schakelhoeken van: 30°, 45°, 60° of 90°. Voor het schakelen van lage spanningen, bijvoorbeeld 24V en stromen in mA, in een stoffige en agressieve omgeving, zijn vergulde contacten leverbaar.

De Santon nokkenschakelaars voldoen aan vele inter-nationale en nationale standards zoals **IEC 60947, IEC 60204, DIN EN 61058, UL 508, C22.2 No. 14 etc.**

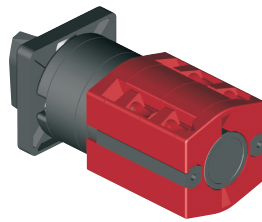
The F-series has two types of finger proof cam

switches; the F0 and F1 (IP20 according to IEC 60529). They have been designed using modern principles and taking into consideration the latest standards in the field of switching devices and using the best insulation and contact materials available. They are distinguishable for their high breaking capacity, electrical and mechanical durability and small dimensions.

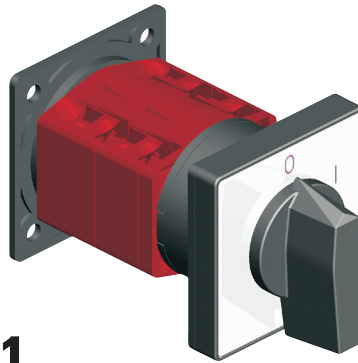
Used in main and auxiliary circuits as a motor switch (switching of three-phase and single-phase motors) in the utilisation categories AC3 or AC23; as a load break switch (for switching of resistive loads including moderate overloads) in the utilisation categories AC1 or AC21.

Rotary cam switches can have a maximum of 12 control positions, with switching angles of 30°, 45°, 60° or 90°. For switches used at lower voltages such as 24V and currents of mA and in dusty or aggressive environments; gold plated contacts can be provided.

The Santon rotary cam switches comply with many international and national standards such as: **IEC 60947, IEC 60204, DIN EN 61058, UL 508, C22.2 No. 14 and many others.**



Paneelmontage **F0**
Panel mounting



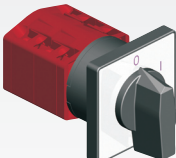
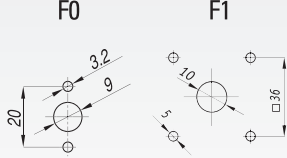
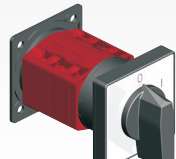
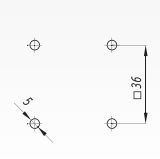
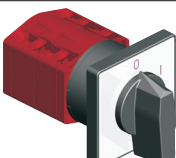
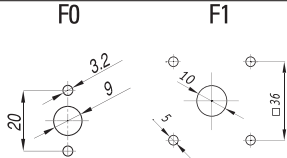
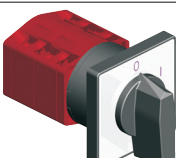
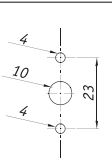
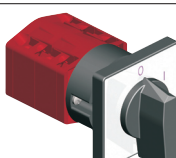
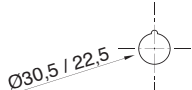
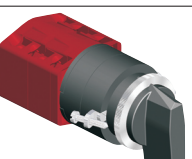
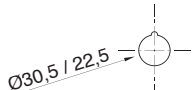
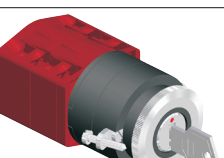
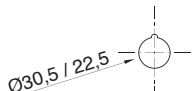
Bodemmontage **F1**
Base mounting

Type Type	Max. aantal elementen Max. number of elements	Bevestiging Mounting form	Bevestigingsmaten Mounting size	Gegevens Main data I_{th} , U_i
F0	8	Paneel/Panel - P	(□ 30 mm)	10A, 480V
F1	12	Paneel/Panel - P Bodem/Base - B	(□ 48 mm)	20A, 480V

Schakelaar type Switch type		F0	F1
Isolatiespanning Rated insulation voltage	U_i V	480	480
Impulsspanning Rated impulse withstand voltage	U_{imp} kV	4	4
Thermische duurstroom Rated thermal current	I_{th} A	10	20
Hoofdschakelaar - max. nominaalspanning Main switch - max. value of rated operational voltage	V	480	480
Kortduurström Rated short-time withstand current	I_{cw} 1sec. A	250	250
Nominaalstroom Rated operational current	I_b AC1/AC21A A	10	20
	AC15 220/240V A	3	8
	AC15 380/440V A	2	6
Motorschakelaar in gebruikscategorie: Motor switch in utilization category:	3 phase AC3: 220/240V 380/440V kW	1,5 2,2	3 5
	3 phase AC23: 220/240V 380/440V kW	1,8 3	5 7,5
Max. zekering t.b.v. kortsluitbeveiliging: Max. fuse size for short circuit:	I_n (gG/gL) A kA	10 5	20 5
Aansluiting Conductor size	max. r/f	2 x $\frac{mm^2}{AWG}$	1,5/1,5 14/14
	min. r/f	2 x $\frac{mm^2}{AWG}$	2,5/2,5 12/12
	r = hard/rigid f = flexibele/flexible		0,5/0,5 20/20

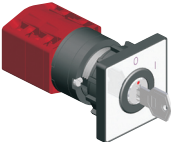
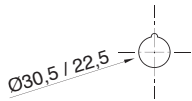
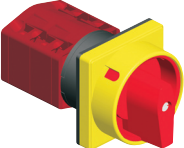
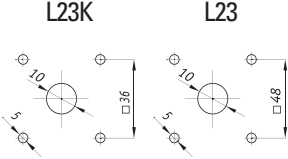
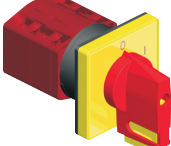
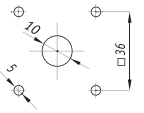
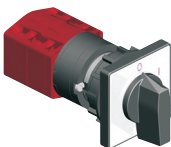
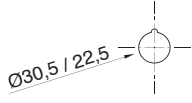
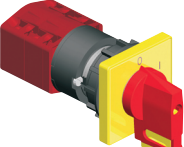
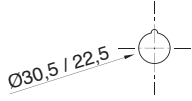
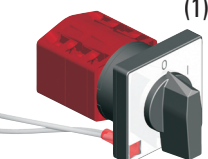
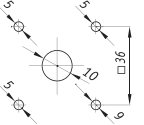
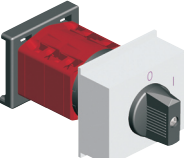
STANDAARD UITVOERING EN ACCESSOIRES

STANDARD DESIGN AND ACCESSORIES

ACCESSOIRES ACCESSORIES	UITVOERING FORM	BOORPATROON DRILLING TEMPLATE	CODE CODE	OMSCHRIJVING DESCRIPTION
Standaard uitvoering Standard design Paneelmontage Panel mounting P	 (1)(2)	 F0 F1	F0 P F1 P	□30 frontplaat / escutcheon plate □48 frontplaat / escutcheon plate
Standaard uitvoering Standard design Bodem montage Base mounting B	 (1)(2)		F1 B	□48 frontplaat / escutcheon plate
Met asdoorvoer IP 54 With shaft gland IP 54 L01	 (1)(2)	 F0 F1	F0 P-___-L01 F1 P-___-L01	Asdoorvoer IP54 - afmetingen blijven gelijk aan standaard schakelaar. Protection IP54 - dimensions remain same as standard switch. Asdoorvoer IP54 - afmetingen blijven gelijk aan standaard schakelaar. Protection IP54 - dimensions remain same as standard switch.
Driegatsmontage met frontplaat en knop Panel mounting three holes with escutcheon plate and knob L10	 (1)		F1 P-___-L10	Driegatsmontage met frontplaat en knop Panel mounting, three holes, with escutcheon plate and knob
Ééngatsmontage met frontplaat en knop Single hole mounting with escutcheon plate and knob L11			F1 P-___-L11	Ééngatsmontage Ø 22,5 en Ø 30,5 mm met frontplaat en knop Single hole mounting suitable both Ø 22,5 and for Ø 30,5 mm with escu- cheon plate and knob
Ééngatsmontage zonder frontplaat met knop Single hole mounting without escutcheon plate with knob L12 (Ø30,5mm) L15 (Ø22,5mm)			F1 P-___-L12 F1 P-___-L15	Ééngatsmontage Ø 30,5 mm zonder frontplaat met knop Single hole mounting Ø 30,5 mm without escutcheon plate with knob Ééngatsmontage Ø 22,5 mm zonder frontplaat met knop Single hole mounting Ø 22,5 mm without escutcheon plate with knob
Ééngatsmontage zonder frontplaat, sleutel bediend Single hole mounting key operated, without escutcheon plate L13 (Ø30,5mm) L16 (Ø22,5mm)			F1 P-___-L13 F1 P-___-L16	Ééngatsmontage Ø 30,5 mm zonder frontplaat, sleutel bediend Single hole mounting Ø 30,5 mm key operated, without escutcheon plate Ééngatsmontage Ø 22,5 mm zonder frontplaat, sleutel bediend Single hole mounting Ø 22,5 mm key operated, without escutcheon plate

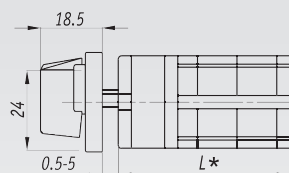
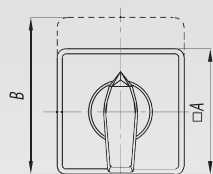
(1) Mogelijkheid tot frontplaat met titelbovenstuk L50 / Possibility of escutcheon plate with title block L50.

(2) Mogelijkheid tot grotere frontplaat L60 (□65 mm) / Possibility of bigger escutcheon plate L60 (□65 mm).

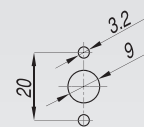
ACCESSOIRES ACCESSORIES	UITVOERING FORM	BOORPATTERN DRILLING TEMPLATE	CODE CODE	OMSCHRIJVING DESCRIPTION
Ééngatsmontage met frontplaat, sleutel bediend Single hole mounting key operated, with escutcheon plate L14 (Ø30,5mm) L17 (Ø22,5mm)			F1P-_-L14 F1P-_-L17	Ééngatsmontage Ø 30,5 mm met frontplaat, sleutel bediend Single hole mounting Ø 30,5 mm key operated, with escutcheon plate Ééngatsmontage Ø 22,5 mm met frontplaat, sleutel bediend Single hole mounting Ø 22,5 mm key operated, with escutcheon plate
Hangslotvergrendeling Padlocking L23K tweevoudig / double □48 L23 drievoudig / tripple □65	 (1)(3)		F1P-_-L23K F1P-_-L23	Hangslotvergrendeling kunststof rood/geel Padlocking plastic red/yellow Hangslotvergrendeling kunststof rood/geel Padlocking plastic red/yellow
Hangslotvergrendeling in knop Padlocking in knob L27/L28/L29/L30	 (1)(2)		F1P-_-L27 F1P-_-L28 F1P-_-L29 F1P-_-L30	rood/geel, red/yellow grijs/grijs, grey/grey rood/rood, red/red zwart/zwart, black/black
Snel montage Quick mounting L36 (Ø22,5mm) L37 (Ø30,5mm)			F1P-_-L36 F1P-_-L37	Ééngatsmontage Ø 22,5 mm met frontplaat en knop Single hole mounting Ø 22,5 mm with escutcheon plate and knob Ééngatsmontage Ø 30,5 mm met frontplaat en knop Single hole mounting Ø 30,5 mm with escutcheon plate and knob
Combinaties van hangslotvergrende- ling in knop met snel montage Combinations of padlocking in knob with quick mounting L27/L28/L29/L30-L36/L37			F1P-_-L27-L36 F1P-_-L27-L37 F1P-_-L28-L36 F1P-_-L28-L37 F1P-_-L29-L36 F1P-_-L29-L37 F1P-_-L30-L36 F1P-_-L30-L37	
Signaal lamp Signal lamp L41	 (1)(2)(4)		F1P-_-L41	1 signaallamp rood in frontplaat 230V AC/DC rechts onder 1 signal lamp red in escutcheon plate 230V AC/DC right below
Modulaire kap, 3 modules breed Service cover, three modules wide L78-L80			F1C-_-L78-L80	Met DIN rail montage voor inbouw in groepen kast With DIN rail mounting, for use in switch board

- (1) Mogelijkheid tot frontplaat met titelbovenstuk L50 / Possibility of escutcheon plate with title block L50.
(2) Mogelijkheid tot grotere frontplaat L60 (□65 mm) / Possibility of bigger escutcheon plate L60 (□65 mm).
(3) Meerdere kleur combinaties mogelijk / More colour combinations possible.
(4) Meerdere kleuren en spanningen mogelijk / More colours and voltages possible.

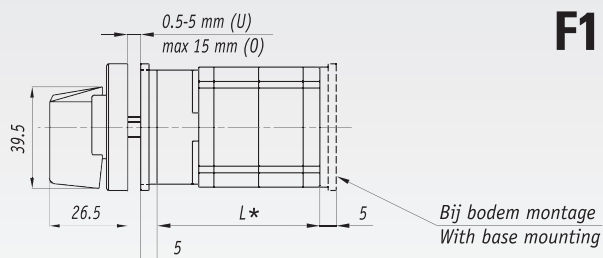
AFMETINGEN DIMENSIONS (mm)



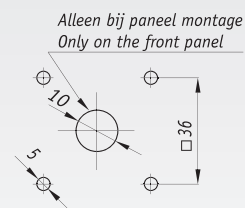
F0



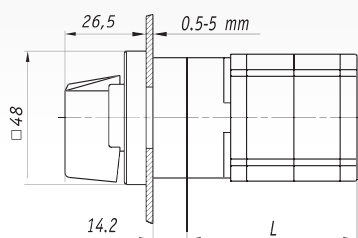
maten dimensions	F0	F1
□A	30	48
B	40	60



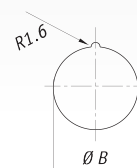
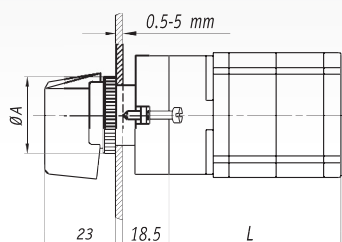
F1



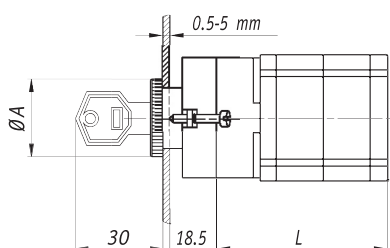
L11



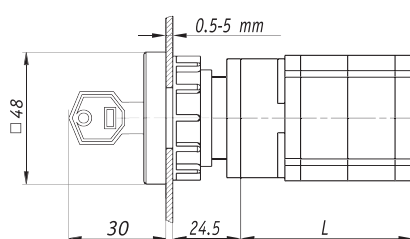
L12/L15



L13/L16

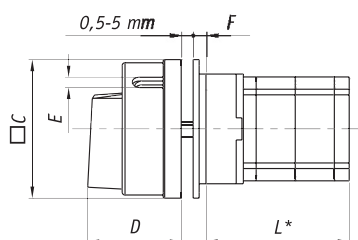


L14/L17



Accessoires Accessories	ØA	ØB
L11,L12,L13,L14	35	30,5
L11,L15,L16,L17	28	22,5

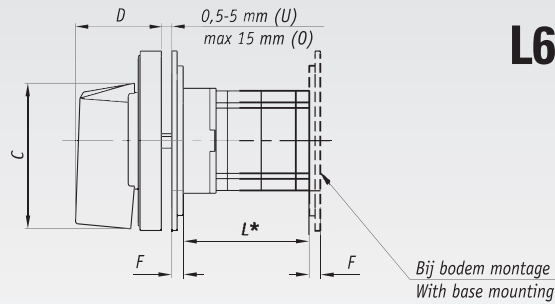
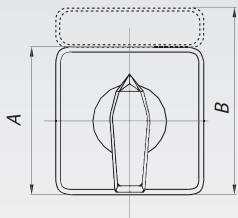
L23K/L23



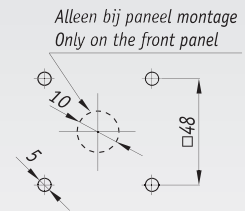
maten dimensions	L23K	L23
□C	48	65
D	34,2	38
E	5	5,5
F	5	5,5

*Voor Lengte L zie volgende pagina
For Length L see next page

AFMETINGEN DIMENSIONS (mm)

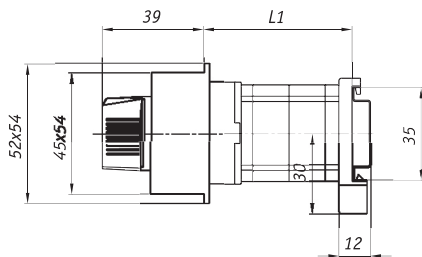


L60

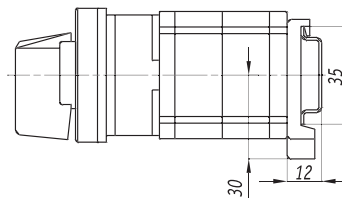


maten dimensions	F1
□A	65
B	80
C	53
D	34,5

L78-L80



L80




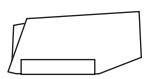
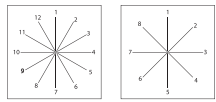


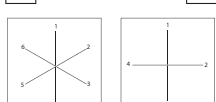



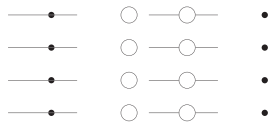
maten dimensions	1 elem.	2 elem.	3 elem.
L1	46	59,5	73

Lengte van de schakelaar / Length of the switch

Aantal elementen No. of elements		1	2	3	4	5	6	7	8	9	10	11	12
L (mm)	F0	40	52	64	76	88	100	112	124	-	-	-	-
	F1	36	49,5	63	76,5	90	103,5	117	130,5	144	157,5	171	184,5

AANVRAAG FORMULIER

ENQUIRY FORM

No.	Afzender Sender:																												
d.d.	Tel.:																												
Gewenste type Preferred type	Fax:																												
	E-mail:																												
Aantal Quantity	Bevestiging. Mounting.	Knop. Knob.	Schakelhoek. Switching angle.	Stand Position	Opschriften Frontplaat Inscriptions Escutcheon plate																								
Nominale waarden Nominal ratings $U_e = \dots\dots\dots V$ $I_e = \dots\dots\dots A$ Gebruikscategorie. Utilization category. AC ..			<input type="checkbox"/> 30° <input type="checkbox"/> 45° 	1	_____																								
			<input type="checkbox"/> 60° <input type="checkbox"/> 90° 	2	_____																								
				3	_____																								
				4	_____																								
				5	_____																								
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				11	_____																								
				12	_____																								
Accessoires - Accessories M...../L.....																													
Aanwijzingen - Instructions				Uitwendige verbindingen External connections																									
 <p>Terugverend naar stand Spring return to position.</p> <table border="1" style="display:inline-table; border-collapse: collapse; text-align:center;"> <tr><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td></td><td></td><td>x</td><td>x</td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td>x</td><td>x</td></tr> </table> <p>Gesloten in stand 3 en 4 Closed position 3 and 4.</p> <p>Idem zonder onderbreking Ditto without interruption.</p>				1	2	3	4			x	x															x	x		
1	2	3	4																										
		x	x																										
		x	x																										
Contacten - Contacts			Standen - Positions								Opmerkingen - Notes																		
			1	2	3	4	5	6	7	8		9	10	11	12														
1	•	○	○	•	2																								
4	•	○	○	•	3																								
5	•	○	○	•	6																								
8	•	○	○	•	7																								
9	•	○	○	•	10																								
12	•	○	○	•	11																								
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45	•	○	○	•	46																								
48	•	○	○	•	47																								



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