



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



General specifications

Layout



- The NO and NC circuits must both be of the same polarity.

Components

Material

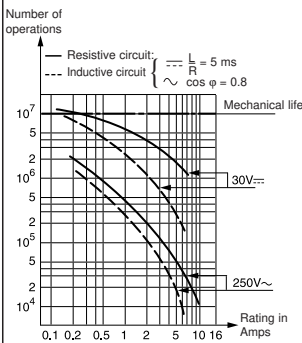
- Case : glass filled polyamide
- Contacts : silver
- Terminals: copper-nickel

Actuator

- Plain : stainless steel
- roller: nylon

Accessories : stainless steel

Operating curve



Approvals UL (E42016), CSA (LR - 20918) for others, please consult us.

Types

Features

Electrical characteristics

Current rating at 125-250 V	Nominal	A
	Thermal	A

Mechanical characteristics

Operating force - max.	N (oz)
Release force min.	N (oz)
Overtravel max. - force	N (oz)
Maximum rest position	mm (in)
Tripping point	mm (in)
Movement differential	mm (in)
Overtravel - min.	mm (in)
Operating temperature	°C (°F)
Mechanical life	Operations
Contact gap	mm (in)
Weight	g (oz)

Contact Type

C (Form C) SPDT-DB

Connections

- 83 132 : solder connection -1- only
- 83 133 : solder connection -1- only
- 83 134 : printed circuit board -2- only

Actuators and mounting positions-Factory Mounted Only

Part numbers for standard actuators

Actuators-Length mm (in)

Tripping point	mm (in)
Operating force max.	N (oz)
Release force min.	N (oz)
Pre-travel - max.	mm (in)
Movement differential	mm (in)
Total travel max.	mm (in)

Part numbers for standard actuators

Actuators-Length mm (in)

Tripping point	mm (in)
Operating force - max.	N (oz)
Release force - min.	N (oz)
Pre-travel - max.	mm (in)
Movement differential	mm (in)
Total travel max.	mm (in)

Other information

Also available: 1) Bi-stable operation
2) NC or NO contacts
3) Custom Actuators

Please consult us for other actuators.

Normally stocked items

Catalog products produced to order



Products and specifications subject to change without notice.



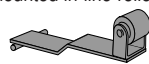
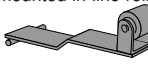
Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com

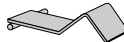

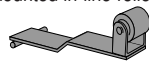


1		
83 132 0	83 133 0	83 134 0
Side terminals	Base terminals	Face terminals
5	5	5
11	11	11
1.6 (5.6)	1.6 (5.6)	1.6 (5.6)
0.4 (1.4)	0.4 (1.4)	0.4 (1.4)
10 (35.3)	10 (35.3)	10 (35.3)
8.45 (.33)	8.45 (.33)	8.10 (.32)
7.7 ^{+0.2} (.30 ^{-0.008})	7.7 ^{+0.2} (.30 ^{-0.008})	7.35 ^{+0.25} (.29 ^{-0.10})
0.45 (.018)	0.45 (.018)	0.45 (.018)
0.3 (.012)	0.3 (.012)	0.3 (.012)
-20 +125 (-4 to +257)	-20 +125 (-4 to +257)	-20 +125 (-4 to +257)
10 ⁷	10 ⁷	10 ⁷
0.3 x 2 (.012 x 2)	0.3 x 2 (.012 x 2)	0.3 x 2 (.012 x 2)
1.8 (.06)	1.8 (.06)	1.8 (.06)

2		
C	C	C

 **1** solder tags can accept quick connects .11" x .02"
 **2** for printed circuit boards

4																																																																																							
L 70 514 175	C 70 514 194	E 70 514 181	F 70 514 182																																																																																				
Flat 54A R14.75 (.58)	Flat 54A R35.75 (1.41)	Tip-mounted in-line roller 54E R7.5 (.3)	Tip-mounted in-line roller 54E R14.1 (.56)																																																																																				
																																																																																							
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∅ No Actuator

Except where otherwise indicated, the actuator is mounted in the position shown in the dimensional drawings (= standard mounting).

To order please specify :

1 Switch Type 831320 831330 831340	2 Contact Type C	3 Connection 1 2	Example : 831330 C 1 - A L Actuators A B C E	4 Actuators F G ∅ L	5 Actuator Position L - Left (Standard) R - Right
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Example P/N is 831330, SPDT-DB, solder terminals, A actuator mounted on the left.

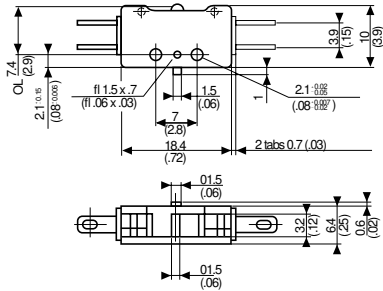
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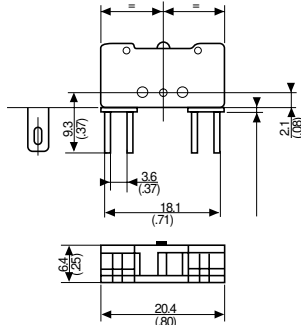
Subminiature Switches

Dimensions

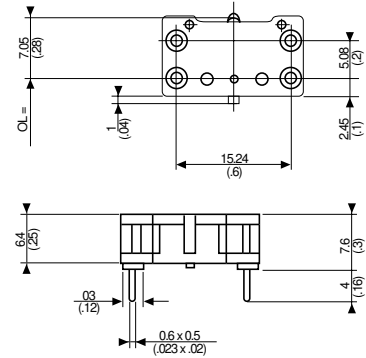
83 132 0



83 133 0



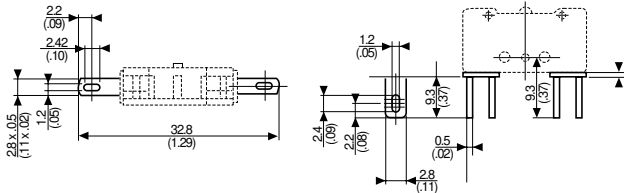
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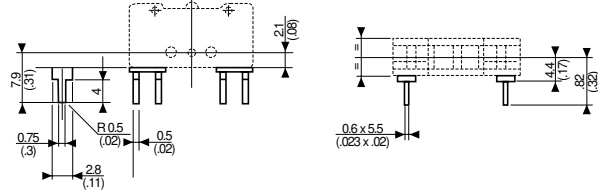
mm(in)

Connections

1



2



mm(in)

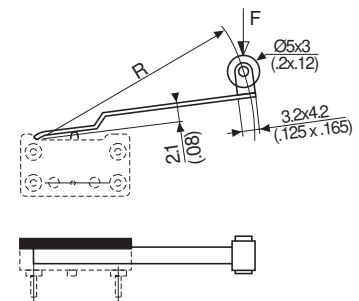
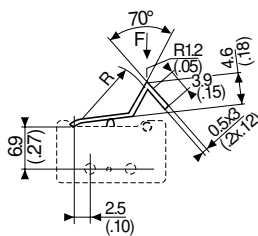
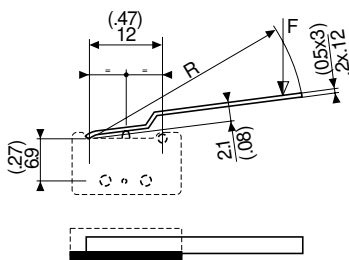
Actuators

Standard mounting

A 70514131 R=7.75 (.30)
L 70514175 R=14.75 (.58)
C 70514194 R=35.75 (1.41)

B 70514559 R=13.7 (.54)

E 70514181 R=7.5 (.3)
F 70514182 R=14.1 (.56)
G 70514183 R=34.4 (1.35)



mm(in)

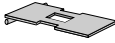


Products and specifications subject to change without notice.

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Subminiature Switches

Actuators and mounting positions – Factory Mounted Only – for Gang Operation

Part numbers for standard actuators – Consult factory for part number

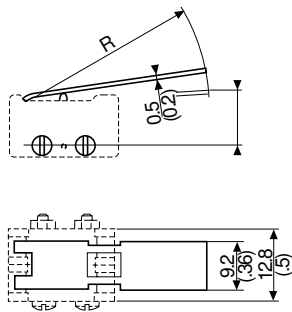
Actuators-Length	mm (in)	2 pole 54A2 R30 (1.18)	3 pole 54A3 R30 (1.18)	Side mounting plate (0.4 mm) 54Y
				
		83 132 0	83 132 0	
		83 133 0 *83 134 0	83 133 0 *83 134 0	
Tripping Point	mm (in)	8.8 ^{+0.8} (.346 ^{+0.03})	8.8 ^{+0.8} (.346 ^{+0.03})	
Operating Force max	N (oz)	0.8 (2.8)	1.2 (4.2)	
Release Force min	N (oz)	0.16 (.6)	0.24 (.8)	
Pre-travel min	mm (in)	4.3 (.17)	4.3 (.17)	
Movement differential	mm (in)	2 ^{+0.55} (.08 ^{+0.02})	2 ^{+0.55} (.08 ^{+0.02})	
Total travel max	mm (in)	5.75 (.23)	5.75 (.23)	

Delivered separately

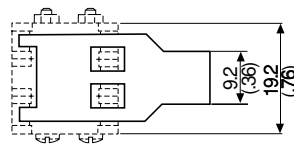
*For gang operation with 83 132 0 or 83 133 0.

Actuators – For Gang Operation

54A2



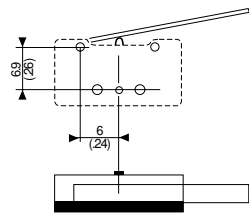
54A3



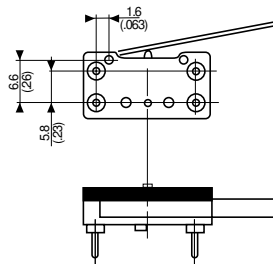
mm(in)

Mounting accessories

83 132 0 - 83 133 0



83 134 0



mm(in)

Products and specifications subject to change without notice.

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General specifications

Layout



Components

Material

- Case : polyester UL 94 VO
- Button : glass-filled polyamide
- Contacts : AgNi, gold-plated AgNi (dual-current)
- Terminals : copper-nickel

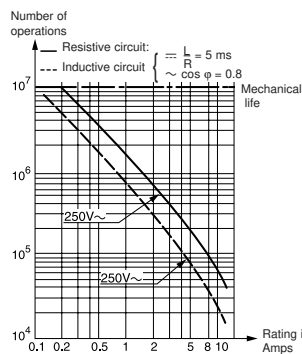
Actuators

- flat : stainless steel
- roller : stainless steel with polyamide roller

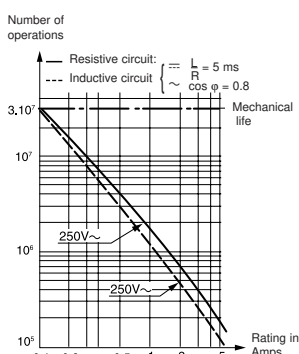
Approvals: NF - UL - cUL

Operating curve

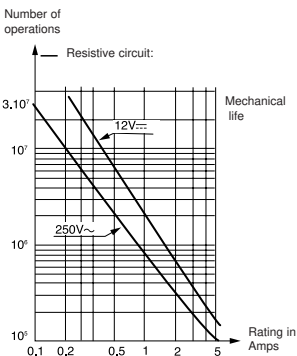
For type 83 170 0



For type 83 170 4



For type 83 170 9



Model 83 170 9 is designed to operate equally well on dual-current (1 mA 4 V minimum) or medium-current (5 A maximum) circuits. However, a given product should only be used to switch one type of circuit during its working life.

Types

Part numbers for standard products (no lever) terminal type	
	1
	2
	3

Features

Electrical characteristics

	Nominal	A
Current rating at 250 V		
	Thermal	A

Mechanical characteristics

Operating force - max.	N (oz.)
Release force - min.	N (oz.)
Total travel force - max.	N (oz.)
Permitted overtravel force - max.	N (oz.)
Maximum rest position	mm (in.)
Tripping point	mm (in.)
Differential travel	mm (in.)
Overtravel - min.	mm (in.)
Ambient operating temperature	°C
Mechanical endurance	Operations
Contact gap	mm (in.)
Weight	g (oz.)

Contact type

- C** (Form C) SPDT
- B** (Form B) SPNC not available in PC terminals
- A** (Form A) SPNO not available in PC terminals

Connections

Actuators and mounting positions

Part numbers for standard actuators

Actuators – Length	mm (in.)
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Mounting positions

Coefficient	
Tripping point	mm (in.)

Mounting positions

Except where otherwise indicated, actuators are supplied unmounted. For factory mounting, specify mounting position L or R.

- **To calculate force** : take the force quoted for the switch and divide by the coefficient given in the table.
- **To calculate travel** : take the travel quoted for the switch and multiply by the same coefficient.

Mounting accessories for PCB mounting: 5 / 6 / 7 / 8

See page 3/9.

Other information

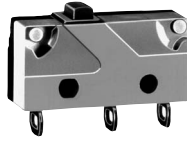
For other forces, actuators, connections and temperatures, please consult us.

Normally stocked items

Catalog products produced to order

Products and specifications subject to change without notice.

Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com



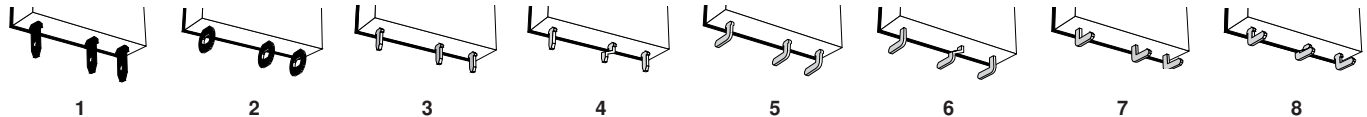
1

83170.0	83170.4	83170.9	83170.4 SP 4967	83170.4	83170.9
831700C1.0	831704C1.0	831709C1.0	831704C2.MBSP	831704C1.MB	831709C1.MB
831700C2.0	831704C2.0	831709C2.0	831704C3.MBSP	831704C2.MB	831709C2.MB
831700C3.0	831704C3.0	831709C3.0	831704C1.MBSP	831704C3.MB	831709C3.MB
High current	Standard	Low current	High force	Standard	Low current
10	5	0.1	5	5	0.1
12.5	6		6	6	
1.5 (5.3)	0.6 (2.2)	0.6 (2.2)	1.5 (5.3)	0.6 (2.2)	0.6 (2.2)
0.3 (1)	0.1 (.04)	0.1 (.04)	0.3 (1)	0.1 (.04)	0.1 (.04)
1.8 (6.3)	1 (3.5)	1 (3.5)	1.8 (6.3)	1 (3.5)	1 (3.5)
10 (35.3)	10 (35.3)	10 (35.3)	10 (35.3)	10 (35.3)	10 (35.3)
9.2 (.36)	9.2 (.36)	9.2 (.36)	10.8 (.425)	10.8 (.425)	10.8 (.425)
8.4 ^{+0.3} (.33 ^{+0.01})	8.4 ^{+0.3} (.33 ^{+0.01})	8.4 ^{+0.3} (.33 ^{+0.01})	9.9 ^{+0.3} (.39 ^{+0.01})	9.9 ^{+0.3} (.39 ^{+0.01})	9.9 ^{+0.3} (.39 ^{+0.01})
0.15 (.006)	0.15 (.006)	0.15 (.006)	0.15 (.006)	0.15 (.006)	0.15 (.006)
0.5 (.02)	0.5 (.02)	0.5 (.02)	0.5 (.02)	0.5 (.02)	0.5 (.02)
-20 to130 (-4 to 266)	-20 to130 (-4 to 266)	-20 to130 (-4 to 266)	-20 to130 (-4 to 266)	-20 to130 (-4 to 266)	-20 to130 (-4 to 266)
10 ⁷	3.10 ⁷	3.10 ⁷	10 ⁶	10 ⁶	10 ⁶
0.4 (.016)	0.4 (.016)	0.4 (.016)	0.4 (.016)	0.4 (.016)	0.4 (.016)
1.7 (.06)	1.7 (.06)	1.7 (.06)	1.7 (.06)	1.7 (.06)	1.7 (.06)

2

C	C	C	C	C	C
B	B	B	B	B	B
A	A	A	A	A	A

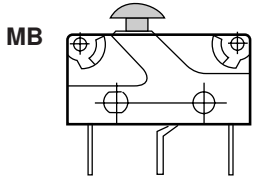
3



4

A 79 253 327	B 79 253 326	C 79 253 328	E 79 218 454	F 79 253 329
Flat 170A R18.3 (.72)	Flat 170A R24 (.94)	Flat 170A R41 (1.61)	Roller 170E R20 (.79)	Dummy roller 170F R19.5 (.77)
L 3 10.4 ^{+1.2} (.41 ^{+0.05})	L 4 11.1 ^{+1.2} (.44 ^{+0.05})	L 7 13.2 ^{+2.5} (.52 ⁺¹)	L 3 15.4 ^{+1.2} (.61 ^{+0.05})	L 3 13 ^{+1.2} (.51 ^{+0.05})
R 1.5 9.2 ^{+0.6} (.36 ^{+0.24})	R 2 9.6 ^{+0.6} (.38 ^{+0.24})	R 3.5 10.7 ^{+1.2} (.42 ^{+0.05})	R 1.5 14.5 ^{+0.6} (.57 ^{+0.24})	R 1.5 12 ^{+0.6} (.47 ^{+0.24})

D 79 218 491	L 79 218 493
Screw 170D R20 (.79)	Transverse roller 170L R20 (.79)
Characteristics available upon request.	



Ø No Actuator

5

To order please specify :

Example : 831700 C 2 . C L

1 Switch Type	2 Contact Type	3 Connection	4 Actuators	5 Actuator Position
831700 831704 831709	A B C	1 5 2 6 3 7 4 8	A E B F C L D MB Ø MB SP4967	L - Left (Standard) R - Right
To order actuators separately, use the 8 digit P/N			Example P/N is 831700 SPDT solder terminals "C" actuator mounted on the left.	

Products and specifications subject to change without notice.

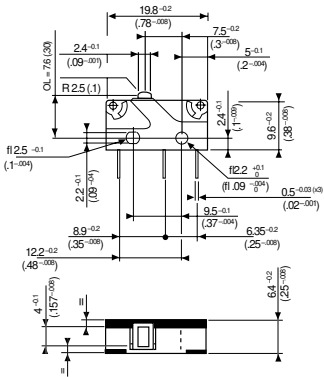
Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com



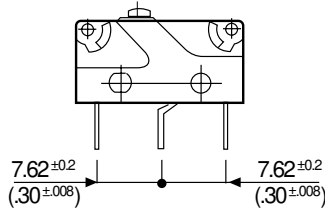
Subminiature Switches DIN 41635 B

Dimensions

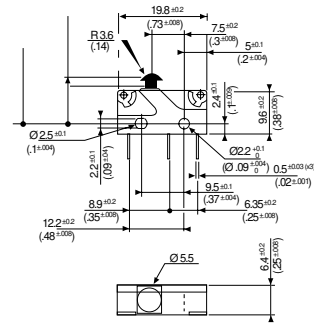
83 170 Asymmetric



83 170 Symmetric



83 170 with MB Button

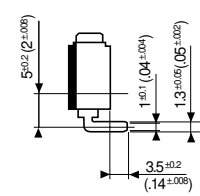
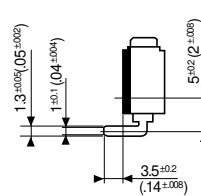
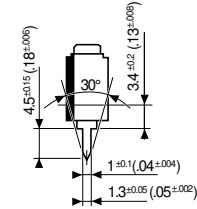
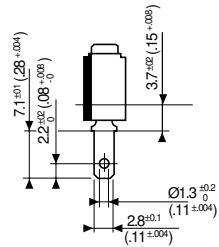
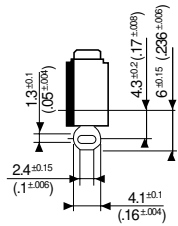


Mounting by M2 screws
Torque : 2 cm daN

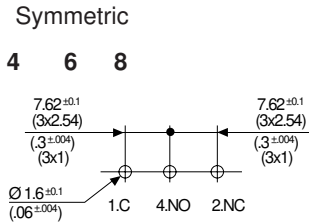
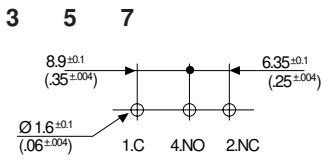
mm (in)

Connections

- 2
Solder
- 1
.11x.02 Quick Connects
- 3-4
Straight PCB
- 5-6
Side Output PCB Rear
- 7-8
Side Output PCB Front



Printed circuit board mounting



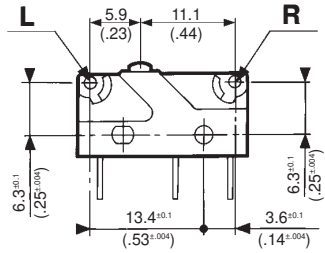
mm (in)

Products and specifications subject to change without notice.

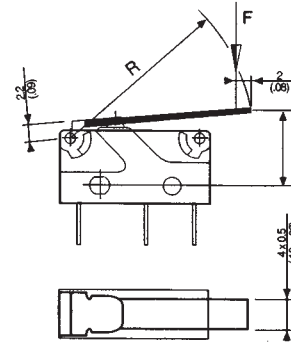
Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com

Actuators

Actuator mounting positions

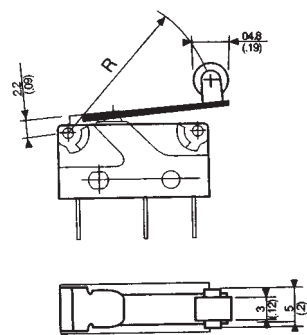


A B C

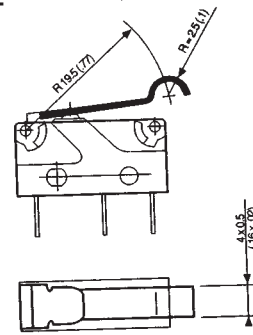


TP (Tripping Point)
Refer to pages 3/6 & 3/7.

E



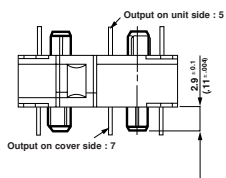
F



mm (in.)

Mounting accessories

Mounting pins



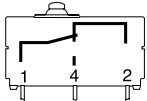
mm (in.)

Products and specifications subject to change without notice.

Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com

General specifications

Layout



Components

Material

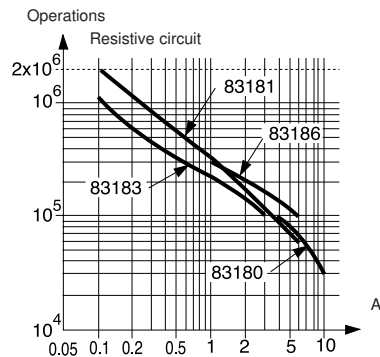
- Case : UL 94VO glass-filled polyester
- Button : Polyester
- Membrane : silicon
- Contacts : AgCdO
AgNi (dual current),
- Terminals : tinned brass
- Cable : PVC (IP 67)
- Leads : PVC

Actuators

- flat : stainless steel
- roller : stainless steel with polyamide roller

Approvals 83 180/83 186 : NF. UL - cUL on request

Operating curve 250 V~



Switch rating with DC supply

		83 180	83 181	83 183	83 186
12 V	Resistive load	10 A	6 A	3 A	6 A
	Inductive L/R 5 ms	10 A	6 A	3 A	6 A
24 V	Resistive load	10 A	6 A	3 A	6 A
	Inductive L/R 5 ms	5 A	5 A	3 A	5 A

Model 83 181 is designed to operate equally well on dual-current (1 mA 4 V minimum) or medium-current (6 A maximum) circuits. However, a given product should only be used to switch one type of circuit during its working life.

Degree of protection

- Tag version : casing = IP67
terminals = IP00
- Lead / cable version : outlet / casing = IP67

Types

Part numbers for standard products with connection of type

1
2
FD0

Features

Electrical characteristics

	Nominal Hp	A
Current rating at 250 V		1/2

Mechanical characteristics

Operating force - max.		N (oz.)
Release force - min.		N (oz.)
Total travel force - max.		N (oz.)
Permitted overtravel force - max.		N (oz.)
Rest position - max.		mm (in.)
Tripping point		mm (in.)
Differential travel		mm (in.)
Overtravel - min.		mm (in.)
Ambient operating temperature	for tag version	°C (°F)
	for lead / cable version	°C (°F)
Mechanical durability		Operations
Contact gap		mm (in.)
Weight (tag version)		g (oz.)

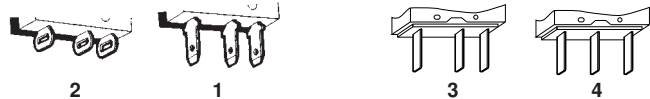
Contact Type

C (Form C) SPDT

B (Form B) SPNC not available in PC terminals

A (Form A) SPNO not available in PC terminals

Connections



Actuators and mounting positions

Part numbers for standard actuators

Actuators - Length mm (in.)

Mounting position

Coefficient

Tripping point mm (in.)

83 180

83 181/183/186

Part numbers for standard actuators

Actuators - Length mm (in.)

Mounting positions

Coefficient

Tripping point

Except where otherwise indicated, actuators are supplied unmounted.

For factory mounting, specify fixing position L or R.

- **To calculate force** : take the force quoted for the switch and divide by the coefficient given in the table.

- **To calculate travel** : take the travel quoted for the switch and multiply by the same coefficient.

Mounting accessories for PCB mounting : 5 / 6 / 7 / 8

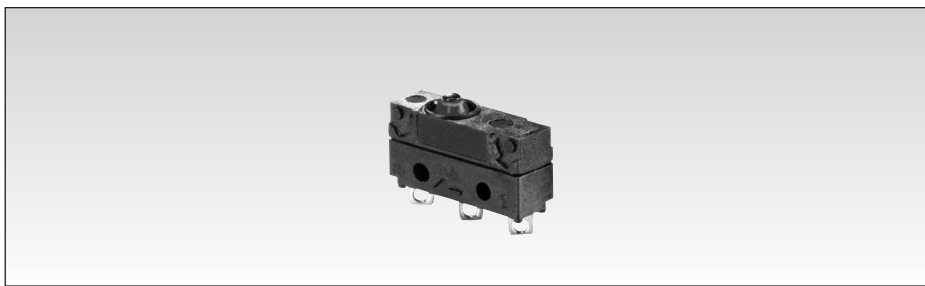
See page 3/9.

Other information

For other forces, actuators, connections and temperatures, please consult us.

Normally stocked items

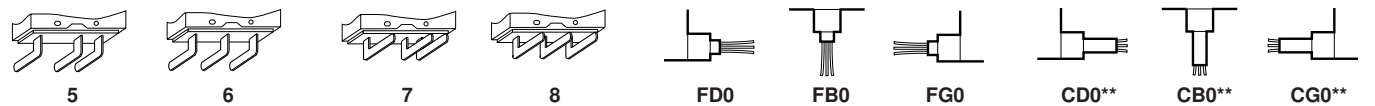
Catalog products produced to order



83180	83181	83183	83186
831800C1.0	831810C1.0	831830C1.0	831860C1.0
831800C2.0	831810C2.0	831830C2.0	831860C2.0
831800CFD0.0	831810CFD0.0	831830CFD0.0	831860CFD0.0

High current	Dual current	Medium current	Standard
10	6	3	6
12.5	7.5	4	7.5
3.4 (12)	2.5 (8.8)	2.5 (8.8)	2.5 (8.8)
1 (3.5)	0.8 (2.8)	0.8 (2.8)	0.8 (2.8)
5 (17.6)	4.2 (14.1)	4.2 (14.1)	4.2 (14.1)
10 (35.3)	10 (35.3)	10 (35.3)	10 (35.3)
9.3 (.37)	9.3 (.37)	9.3 (.37)	9.3 (.37)
8.4 ±0.3 (.33 ±0.012)	8.4 ±0.3 (.33 ±0.012)	8.4 ±0.3 (.33 ±0.012)	8.4 ±0.3 (.33 ±0.012)
0.10 (.004)	0.10 (.004)	0.10 (.004)	0.10 (.004)
0.6 (.024)	0.6 (.024)	0.6 (.024)	0.6 (.024)
-40 +125 (-40 +257)	-40 +125 (-40 +257)	-40 +125 (-40 +257)	-40 +125 (-40 +257)
-40 +105 (-40 +221)	-40 +105 (-40 +221)	-40 +105 (-40 +221)	-40 +105 (-40 +221)
10 ⁶	2 x 10 ⁶	2 x 10 ⁶	2 x 10 ⁶
0.4 (.016)	0.4 (.016)	0.4 (.016)	0.4 (.016)
2 (.07)	2 (.07)	2 (.07)	2 (.07)

C	C	C	C
B	B	B	B
A	A	A	A



A 79 253 327	B 79 253 326	C 79 253 328	E 79 218 454
Flat 170A R18.3 (.72)	Flat 170A R24 (.94)	Flat 170A R41 (1.61)	Roller 170E R20 (.79)
L 3 10.4 ^{+1.2} (.41 ^{+0.05})	L 4 11.1 ^{+1.2} (.44 ^{+0.05})	L 7 13.2 ^{+2.5} (.52 ⁺¹)	L 3 15.4 ^{+1.2} (.61 ^{+0.05})
R 1.5 9.2 ^{+0.6} (.36 ⁺²⁴)	R 2 9.6 ^{+0.6} (.38 ^{+0.04})	R 3.5 10.7 ^{+1.2} (.42 ^{+0.05})	R 1.5 14.5 ^{+0.6} (.57 ⁺²⁴)

F 79 253 329	D *	L *
Dummy roller 170F R19.5 (.77)	Screw 170D	Transverse roller 170EL *
L 3 13 ^{+1.2} (.51 ^{+0.05})		
R 1.5 12 ^{+0.6} (.47 ⁺²⁴)		

Ø No Actuator

* Special order, contact us for part number
 ** Cable version for types 83 181, 83 183 and 83 186

To order please specify :

1 Switch Type 831810 831830 831860 831800	2 Contact Type A B C	3 Connection 1 6 2 7 3 8 4 FDØ CDØ 5 FGØ CBØ FBØ CGØ	4 Actuators Ø F L A B C D E	5 Actuator Position L - Left (Standard) R - Right
--	--------------------------------------	---	--	--

To order actuators separately, use the 8 digit P/N

Example P/N is 831810 SPDT solder terminals with no actuator.

Products and specifications subject to change without notice.

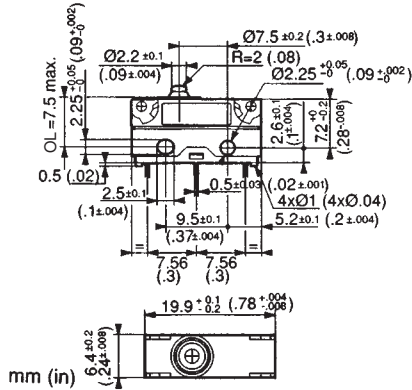
Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com



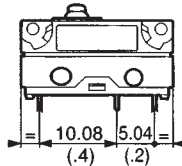
Sealed Subminiature Switches DIN 41635 B

Dimensions

Symmetric



Asymmetric



Fixed by 2 x M2 screws

Torque for

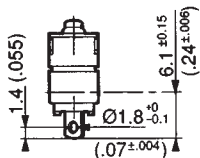
screw alone: 0.2 Nm (1.75 in. lbs.)

screw + washer: 0.3 Nm (2.65 in. lbs.)

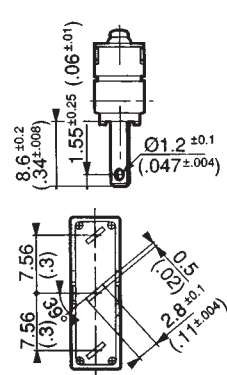
Connections

Terminals

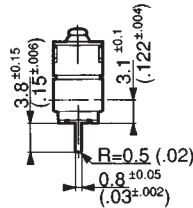
2 Solder



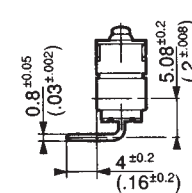
1 Faston 2.8 x 0.5 .110" Quick Connects



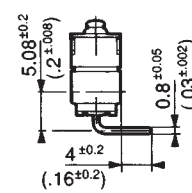
3 - 4 Straight PCB output



5 - 6 Side output, PCB rear

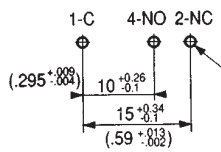


7 - 8 Side output, PCB front

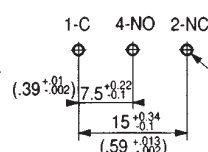


Printed circuit board mounting

Asymmetric 3, 5, 7

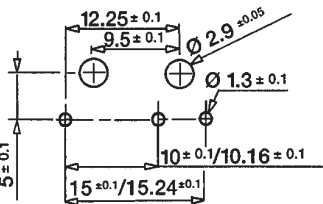


Symmetric 4, 6, 8

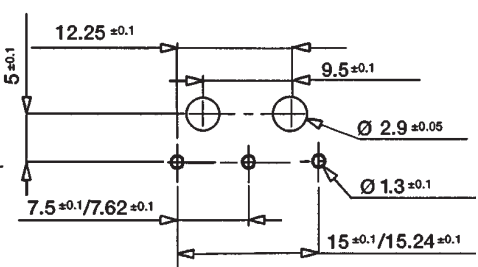


Mounting on a printed circuit board with mounting pins

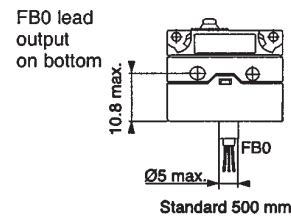
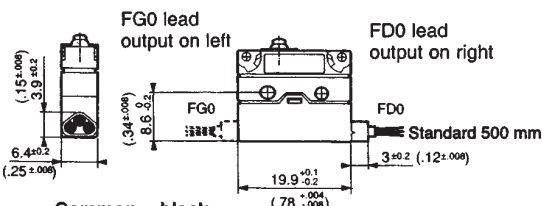
Asymmetric



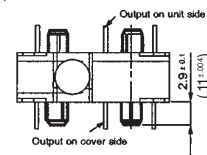
Symmetric



Lead output



Mounting pins



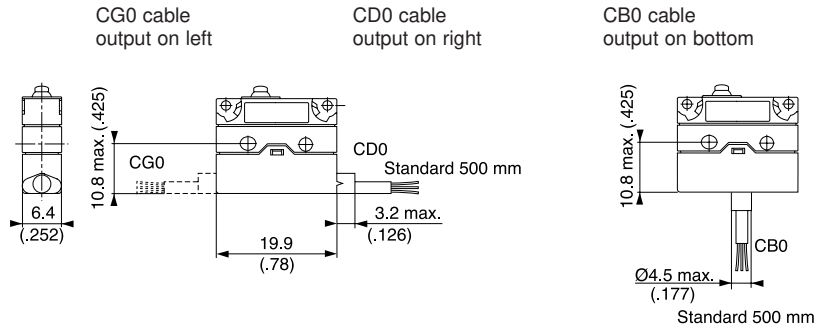
Common = black
NC = brown
NO = blue
mm (in)

Conductor cross-section :
83181 / 83183 / 83186 = 3 x 0.5 mm² (.12 x .02 in²)
83180 = 3 x 0.75 mm² (.12 x .03 in²)

Products and specifications subject to change without notice.

Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com

Cable output



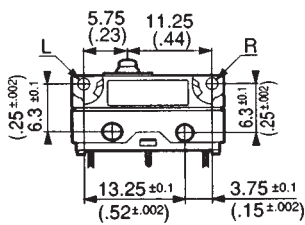
Conductor cross-section :
 83181 / 83183 / 83186 = 3 x 0.5 mm²
 (.12 x .02 in²)

Common = black
 NC = brown
 NO = blue

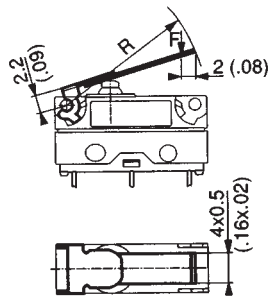
mm (in.)

Actuators

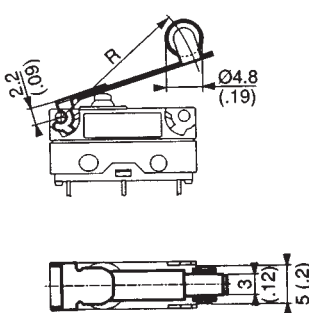
Mounting positions



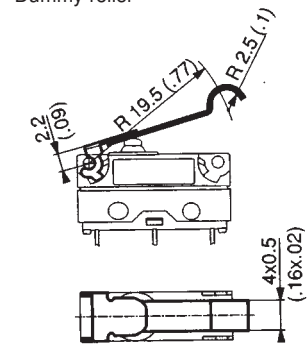
A, B, C
 Flat



E
 Roller

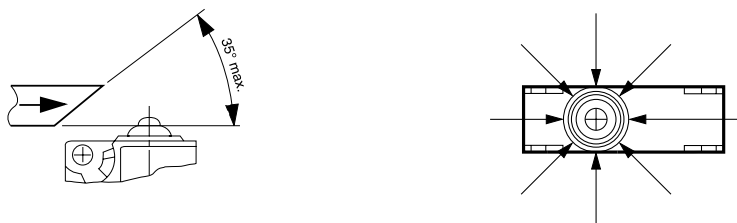


F
 Dummy roller



mm (in.)

Recommendations for operation from the side

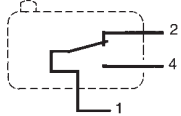


Products and specifications subject to change without notice.

Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com

General specifications

Layout



Components

Material

- Case : glass-filled polyamide (self-extinguishing version to UL 94 VO and IEC 695-2-1 850° C - available on request)
- Button : polyamide
- Contacts : nickel silver or gold alloy (dual-current)

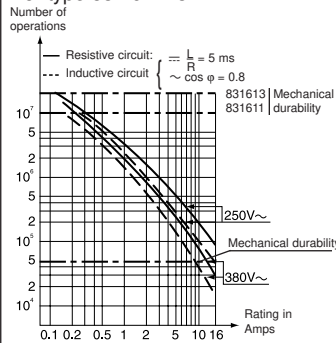
Actuators

- flat : stainless steel
- roller : stainless steel, glass-filled polyamide roller
- other types of polyamide

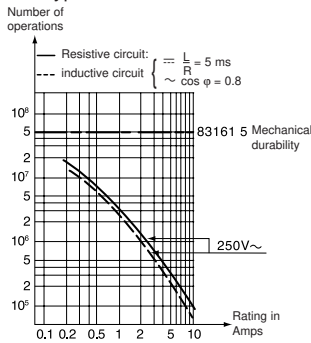
Approvals: NF - UL/cUL

Operating curve

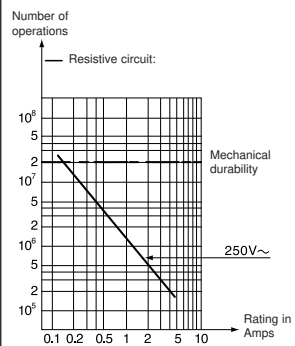
For type 83 161 1 3



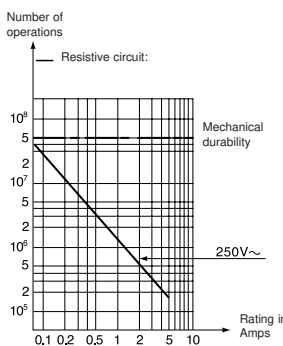
For type 83 161 5 - 5 SP 4136



For type 83 161 8



For type 83 161 9 SP 4136



For types 83 161 8 - 9 SP 4136 dual-current

Models 83 161 8 and 83 161 9 SP 4136 are designed to operate equally well on dual-current (1 mA 4 V minimum) or medium-current (5 A maximum) circuits.

However, a given product should only be used to switch one type of circuit during its working life.

Types

Part numbers for standard products with connections of type

2
3
6

Features

Electrical characteristics

Current rating at 125/250 V	Current	A
	Horsepower	HP

Mechanical characteristics

Operating force - max.	N (oz.)
Release force - min.	N (oz.)
Total travel force - max.	N (oz.)
Permitted overtravel force - max.	N (oz.)
Rest position - max.	mm (in.)
Tripping point	mm (in.)
Differential travel	mm (in.)
Overtravel - min. (OT)	mm (in.)
Ambient operating temperature	°C (°F)
Mechanical durability (for 2/3 OT)	Operations
Contact gap	mm (in.)
Weight	g (oz.)

Contact type

C (Form C) SPDT

B (Form B) SPNC

A (Form A) SPNO

Connections



2 solder



3 for 1/4" Quick Connects

Actuators and mounting positions

Part numbers for standard actuators **A** 79 215 740

Actuators-Length mm (in.) Flat **161A** R14.2 (.56)



Mounting positions	A	B
Coefficient	2	1
Tripping point (except 83 161 6)	15.2 $\pm 1(.6 \pm 0.004)$	15.2 $\pm 0.45(.6 \pm 0.018)$
Tripping point 83 161 6	14.8 $\pm 1(.59 \pm 0.004)$	15 $\pm 0.45(.59 \pm 0.018)$

Part numbers for standard actuators **H** 79 218 651

Actuators-Length mm (in.) Dummy roller **161G** R21.8 (.86)



Mounting positions	A	B
Coefficient	3	1.8
Tripping point (except 83 161 6)	21.7 $\pm 2(.85 \pm 0.08)$	21.7 $\pm 0.7(.85 \pm 0.03)$
Tripping point 83 161 6	21.5 $\pm 2(.85 \pm 0.08)$	21.5 $\pm 0.7(.85 \pm 0.03)$

Other information

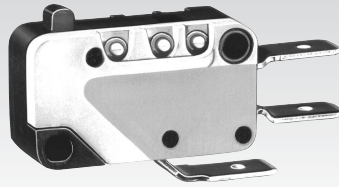
For other forces, actuators, connections and temperatures, please consult us.

Normally stocked items

Catalog products produced to order

Products and specifications subject to change without notice.

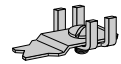
Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com



83161.1(10.1A)	83161.2(15.1A)	83161.3(10.1A)	83161.5(4A) 83161.9(0.1A)	83161.5SP4136 83161.9SP4136	83161.6	83161.8(0.1A)
831611C2.0	831612C2.0	831613C2.0	831615C2.0	•	831616C2.0	831618C2.0
831611C3.0	831612C3.0	831613C3.0	831615C3.0	•	831616C3.0	831618C3.0
831611C6.0	831612C6.0	831613C6.0	831615C6.0	•	831616C6.0	831618C6.0
High Force	High Current	Standard	Low Force	Ultra Light Force	Wide Gap	Dual Current

10.1 1/2	15.1 1/2	10.1 1/2	4 1/10	4 1/10	6.1 1/3	0.1 N/A
3 (10.5)	0.8 (2.8)	0.8 (2.8)	0.25 (0.9)	0.15 (0.54)	5 (18)	0.8 (2.8)
1 (3.5)	0.2 (0.7)	0.2 (0.7)	0.05 (0.18)	0.04 (0.14)	0.5 (1.8)	0.2 (0.7)
4.5 (15.8)	2 (7.0)	2 (7.0)	0.35 (1.2)	0.2 (0.72)	6 (21.6)	0.2 (.07)
20 (70.5)	20 (70.5)	20 (70.5)	20 (70.5)	20 (70.5)	20 (70.5)	20 (70.5)
16.1 (0.63)	16.2 (0.64)	16.2 (0.64)	16.3 (0.64)	16.3 (0.64)	16.1 (0.63)	16.2 (0.64)
14.7 ^{+0.4} (.58 ^{+0.16})	14.7 ^{+0.3} (.58 ^{+0.16})	14.7 ^{+0.3} (.58 ^{+0.16})	14.7 ^{+0.4} (.58 ^{+0.16})	14.7 ^{+0.3} (.58 ^{+0.16})	14.5 ^{+0.4} (.58 ^{+0.16})	14.7 ^{+0.4} (.58 ^{+0.16})
0.35 (0.014)	0.35 (0.014)	0.35 (0.014)	0.35 (0.014)	0.35 (0.014)	0.8 (0.03)	0.35 (0.014)
1.1 (0.05)	1.2 (0.05)	1.2 (0.05)	1.1 (0.05)	1.2 (0.05)	0.9 (0.035)	1.2 (0.05)
-20 +125 (-4 +257)	-20 +125 (-4 +257)	-20 +125 (-4 +257)	-20 +125 (-4 +257)	-20 +125 (-4 +257)	-20 +125 (-4 +257)	-20 +125 (-4 +257)
10 ⁷	2 x 10 ⁷	2 x 10 ⁷	5 x 10 ⁷	5 x 10 ⁷	5 x 10 ⁴	2 x 10 ⁷
0.4 (0.016)	0.4 (0.016)	0.4 (0.016)	0.4 (0.016)	0.4 (0.016)	3.2 (0.126)	0.4 (0.016)
5.6 (.2)	5.6 (.2)	5.6 (.2)	5.6 (.2)	5.6 (.2)	5.6 (.2)	5.6 (.2)

C	C	C	C	C	C	C
B	B	B	B	B	B	B
A	A	A	A	A	A	A



5 screw



6 for 3/16" Quick Connects



7 for .11 Quick Connects

B 70 507 524	E 79 215 742	G 70 507 529	F 70 507 528
Flat 161A R25.4 (1)	Roller 161E R13.6 (.54)	Roller 161E R24.1 (.95)	Dummy 161F roller R22.2 (.84)
A	A	A	A
B	B	B	B
C	C	C	C
4	2	4	3
15.2 ^{+2.5} (.6 ⁺¹)	15.2 ⁺¹ (.6 ^{+0.04})	20.5 ^{+2.5} (.81 ^{+1.11})	20.4 ⁺² (.8 ^{+0.08})
14.4 ^{+2.5} (.56 ⁺¹)	14.8 ⁺¹ (.58 ^{+0.04})	20.5 ^{+1.5} (.81 ^{+0.06})	20.5 ^{+0.7} (.81 ^{+0.03})
	15.2 ^{+0.8} (.6 ^{+0.03})	20.5 ^{+1.2} (.81 ^{+0.05})	20.5 ^{+0.9} (.81 ^{+0.035})
	14.9 ^{+0.8} (.59 ^{+0.03})	19.7 ^{+2.9} (.76 ^{+1.11})	20.2 ⁺² (.79 ^{+0.08})
	20.1 ^{+1.5} (.79 ^{+0.06})	20.1 ^{+1.5} (.79 ^{+0.06})	20.2 ^{+1.2} (.79 ^{+0.05})
	20.3 ^{+0.8} (.80 ^{+0.03})	20.2 ^{+1.2} (.79 ^{+0.05})	20.2 ^{+1.2} (.79 ^{+0.05})

L	V 161V	C 70 507 526	D 79 215 835
** Telescopic plunger Manual action 161L		Flat 161A R50 (1.9)	Flat 161A R60 (2.39)
D Factory Mount only	D Factory Mount only	A	A
1	1	B	B
21.5 ⁺¹ (.85 ^{+0.04})	18.35 ^{+0.45}	C	C
21.5 ⁺¹ (.85 ^{+0.04})		6	7
		3	3.5
		15.2 ^{+1.5}	15.2 ^{+1.5}
		2	2.2
		15.2 ^{+1.5}	15.2 ^{+1.5}

For factory mounting, specify fixing position A, B or C

** For 83 161 1, 83 161 3, 83 161 6, 83 161 8, mounted in factory (supplied without nut)

To order, please specify :

1 Switch Type	2 Contact Type	3 Connection	Example : 831612 C 3 • C A	4 Actuators	5 Actuator Position
831612 831619 831613 831616 831615 831611 831618	A B C	2 3 5 6 7		Ø A B C D E	F G H L V A B (std) C D Ø = No actuator

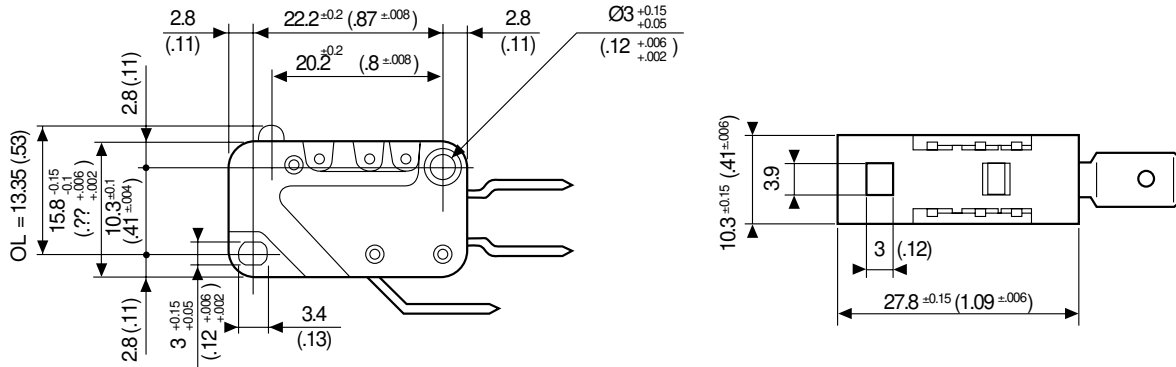
To order actuators separately, use the 8 digit P/N

Example switch is 831612, SPDT, 1/4" Q.C., C actuator mounted in A position

Miniature Switches DIN 41635 A

Dimensions

83 161

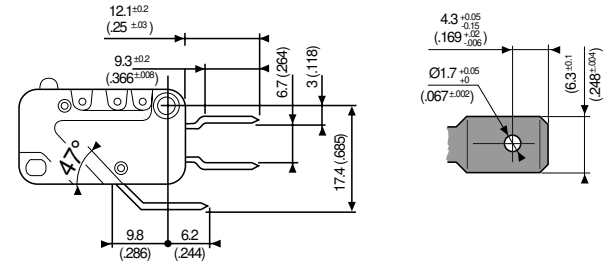
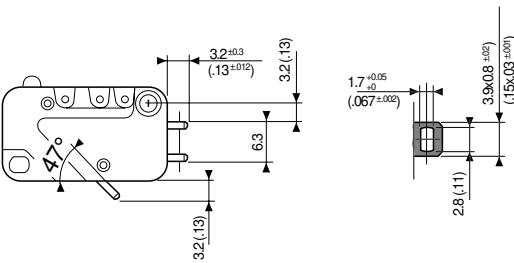


mm (in)

Connections

2 Solder

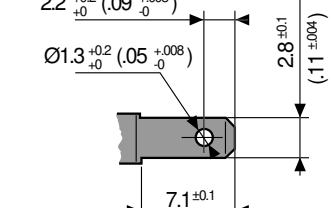
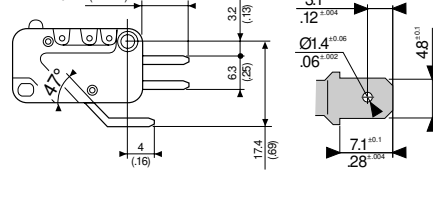
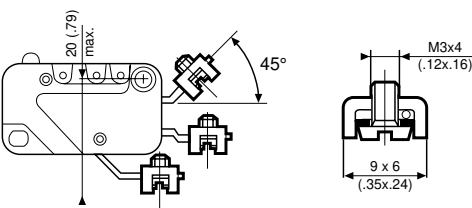
3 (6.3x0.8 (1/4x.03)) Quick Connects



5 Screw

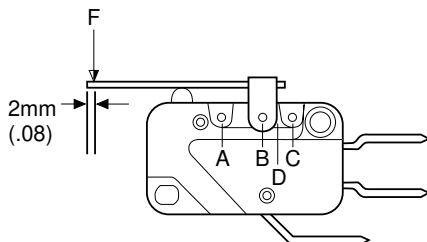
6 (4.8x0.5 (.3/16x.02)) Quick Connects

7 (2.5x0.5 (.11x.02)) Quick Connects



Actuators

mm (in)



Force calculation : divide the switch forces by the coefficient in the table.

Travel calculation : multiply the switch travel by the same coefficient.

Example :

83 161 3 with B Flat 161A actuator R 25.4 (1) position A (coef. 4)

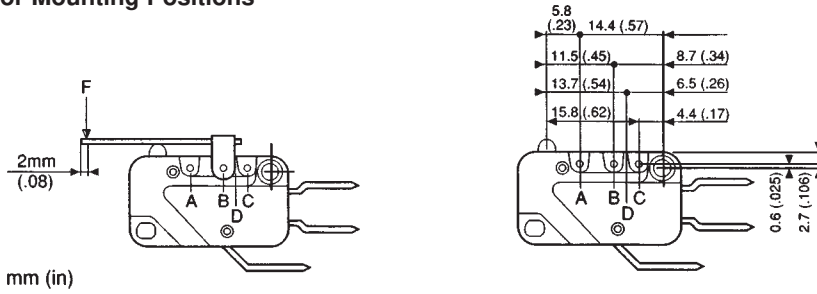
Operating force : $0.8 \div 4 = 0.2$ N

Pre-travel: $1.4 \times 4 = 5.6$ mm ($.055 \times 4 = .22$ in)

Products and specifications subject to change without notice.

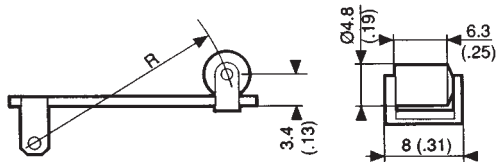
Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com

Actuator Mounting Positions

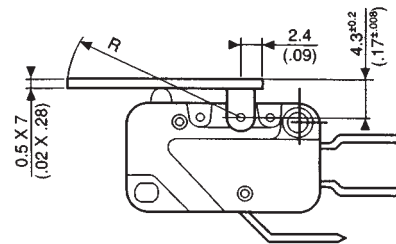


Actuators

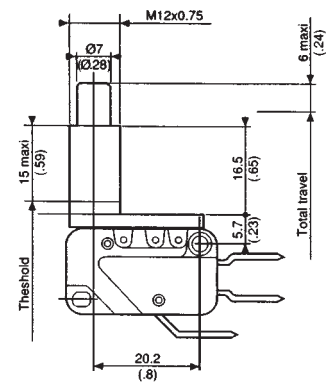
E - G



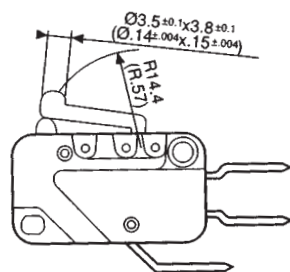
A - B - C - D



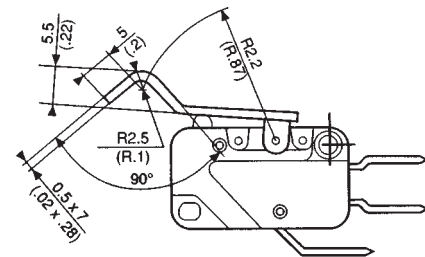
L



V

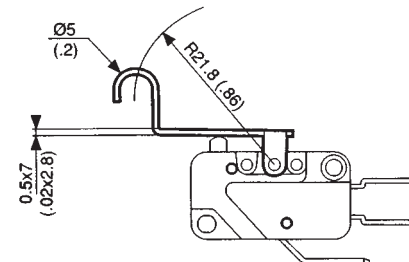


F



mm (in)

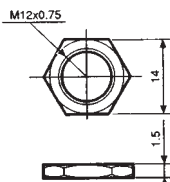
H



Nut depth	Torque max.
1.5mm (.06)	5Cm N (7 in oz.)
2mm (.08)	7Cm N (10 in. oz)
2.5mm (.1)	10Cm N (14 in. oz)

Accessories

Nuts 70 602 118 for L type actuator

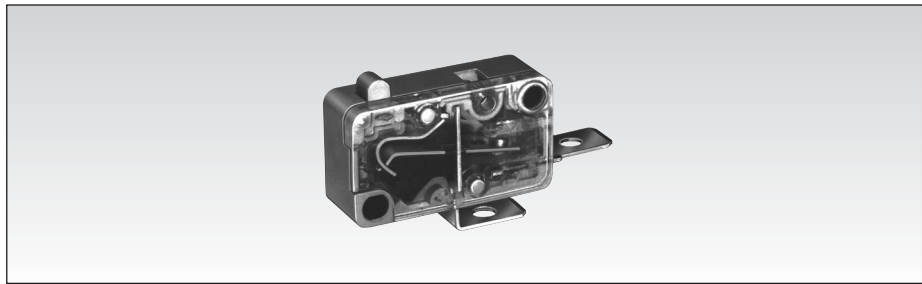


Products and specifications subject to change without notice.

Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com



Miniature Positive Break Switches Series 83 160 DIN 41635 A



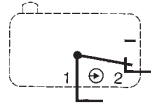
General specifications

Layout

The contact conforms to NFC 63 143 and IEC 947.5.1

*The SPDT version conforms to standard IEC 947.5.1 if only the normally closed contact is used.

The switch operating principle forces the contacts open even in the event of welding (positive break operation).



Components

Material

- Case : glass-filled polyamide
- Cover : transparent polycarbonate
- Contacts : nickel silver
- Positive rocker : high temperature thermoplastic
- Actuators** : stainless steel
- polyamide roller

Electrical characteristics

Short-circuit test

- (from IEC 947-5-1 § 8.34)
- Current peak 1000 A at 250 V ~ 0.5 <math>\cos \varphi < 0.7</math>
- Short-circuit protection (SCPD) : fuse 10 A gG
- (IEC 60) (1.2/50 μ s) : 2500 V

Electrical life

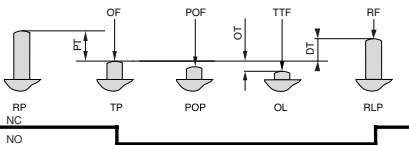
- Max. operations : 20 cycles/min
- Resistive load at 250 V ~ 16 A : 10^5 cycles
- Inductive load (IEC 947.5.1) : AC 15 : 250 V ~ 6A : 0.3×10^5 operations
- DC 13 : 24 V ~ 20 W L/R = 40 ms : 3×10^5 operations
- 120 V ~ 20 W L/R = 40 ms : 5×10^5 operations

Definitions

P.O.F. Minimum Positive Opening Force. The operating force that has to be applied to the operating device to produce the positive opening action.

P.O.P. Maximum Positive Opening Position. The position of the operating device at the moment when positive opening of the contacts occurs.

For other definitions, see "Basic concepts".



Types

83 160 7

Features	With positive break operation	
	NC	SPDT*
Electrical characteristics		
Assigned working voltage (Ue)	V	250
Assigned working current (Ie)	A	6
Thermal current rating (Ith)	A	10
Assigned circuit voltage (Ui)	V	250
Mechanical characteristics		
Operating force - max.	N (oz.)	4 (14.1)
Release force - min.	N (oz.)	1.5 (3.5)
Min. positive opening force	N(oz.)	18 (63.5)
Permitted overtravel force - max.	N (oz.)	200 (70.5)
Maximum rest position	mm (in.)	15.7 (.62)
Tripping point	mm (in.)	14.8 ^{+0.3} (.58 ^{+0.012})
Maximum positive opening position	mm (in.)	13.5 (.53)
Overtravel - min.	mm (in.)	1.3 (0.047)
Operating speed max.	m/s (ft/sec)	0.5 (1.64)
Operating rate max.	(operation/s)	5
Operating temperature	°C (°F)	-40+85 (-40+185)
Mechanical durability	Operations	10 ⁷
Contact gap	mm (in.)	1.2 (0.05)
Weight	g (oz.)	7 (0.25)

Contact Type

B (NC)

B

C (SPDT)*

C

Connections



2 solder



3 for 1/4" Quick Connects



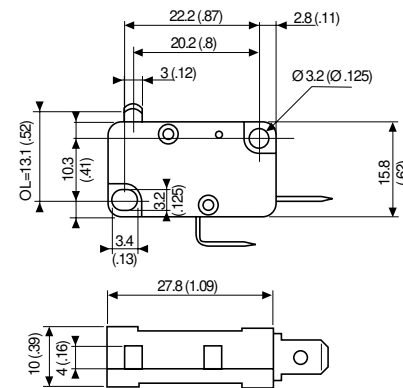
6 for 3/16" Quick Connects



X1 for printed circuit board

Actuators and mounting positions

Dimensions

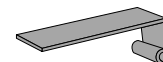


mm (in)

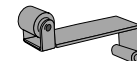
Actuators**

Ø=no Actuator

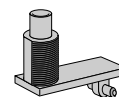
A (Flat)



E (Roller)



L (Pushbutton)



Other information

For other accessories, connections : please consult us

*NO – contact is not positive break

** Consult us for actuator length, forces and positions

To order, specify :

Example : 831607 B 3 : Ø

1 Switch Type	2 Contact Type	3 Connection	4 Actuator Type
831607	B C	2 3 6 X1	A L E Ø = No Actuator

Products and specifications subject to change without notice.

Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com

Miniature Side Rotary (High Sensitivity) Switches Series 83 137



General specifications Layout



Components

Material

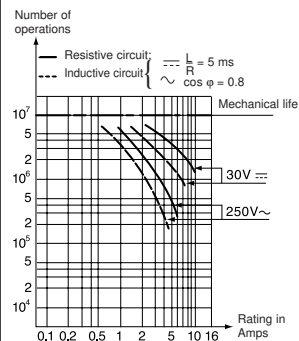
- Case : glass filled polyamide

- Contacts : silver

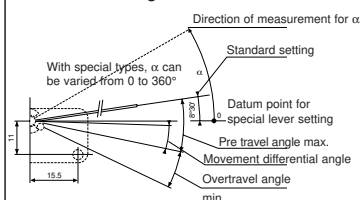
Actuators

- Stainless steel wire

Operating curve



Actuator setting in α



Approvals CSA (LR-20418), ASE, Semko, UTE & VDE.

For other connections, actuators, approvals accessories... Please consult factory

Types

83 137 0

Features

Standard

Electrical characteristics

Current rating at 125-250 V

Nominal
Thermal

A
A

5
14

Mechanical characteristics

Maximum operating force

N cm (in. oz)

0.12 (.17)

Minimum release torque

N cm (in. oz)

0.03 (.042)

Overtravel torque

N cm (in. oz)

0.5 (.71)

Movement differential

°

10^{±0.4}

Overtravel - min.

°

12

Operating temperature

°C (F°)

-20 to 125 (-4 to 257)

Mechanical life

Operations

10⁷

Contact gap

mm (in)

0.8 (.031)

Weight

g (oz)

7.2 (.25)

Contact Type

C (Form C) SPDT

C

B (Form B) SPNC

B

A (Form A) SPNO

A

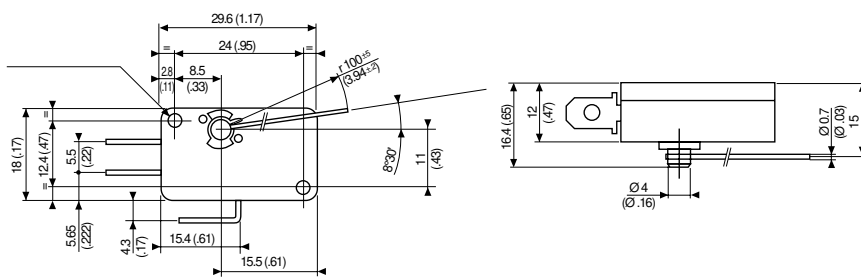
Connections



2 solder

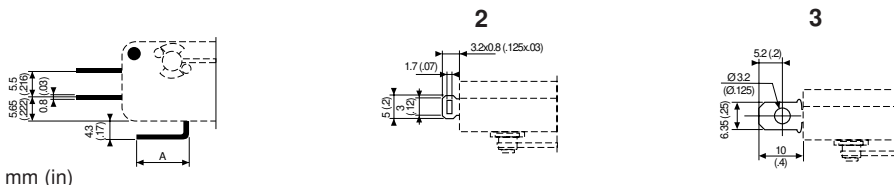
3 for 1/4" Quick Connects

Dimensions



mm (in)

Dimensions connections



mm (in)

To order, please specify :

Example : 831370 C 3 . W

1 Switch Type

831370

2 Contact Type

A
B
C

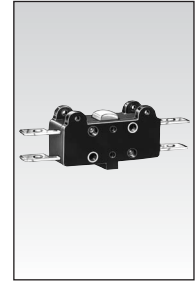
3 Connection

2
3

Example switch is: 831370, SPDT, 1/4" Q.C.

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General specifications

Layout



- The NO and NC circuits must both be of the same polarity.

Components

Material

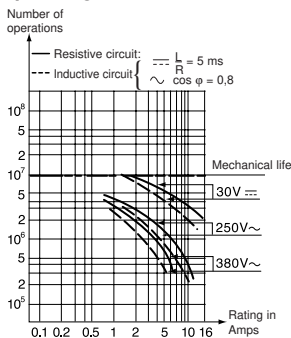
- Case : polyamide (83 106 to 83 112)
- Case : Diallyl-Phthalate (83 154)
- Contacts : nickel silver

Actuators

- passivated mild steel
 - roller : nylon
 - adjustable screws : self-retaining
 - plates : passivated mild steel (zinc)
- Note : Fixing holes for these switches have metal ferrules.

Approvals: UL - cUL

Operating curve



83 154

Types

83 106 0

Features

Standard

Electrical characteristics

Current rating at 250 V	Nominal ---	A	—
	Nominal ~		10
	Thermal	A	17.5

Mechanical characteristics

Operating force - max.	N (oz.)	4 (14.1)
Release force - min.	N (oz.)	1 (3.5)
Permitted overtravel force - max.	N (oz.)	20 (70.5)
Maximum rest position	mm (in.)	12.75 (.5)
Tripping point	mm (in.)	11.45 ^{+0.2 -0.25} (11.45 ^{+0.2 -0.25})
Differential travel	mm (in.)	0.5 ^{±0.2} (0.02 ^{±0.008})
Overtravel - min.	mm (in.)	0.7 (.28)
Ambient operating temperature	°C (°C)	-20 +85 (-4 +185)
Mechanical durability	Operations	10 ⁷
Contact gap	mm (in.)	0.4 x 2
Weight	g (oz.)	8

Contact type

C (Form C) SPDT

C

B (Form B) SPNC

A (Form A) SPNO

Connections

Actuators and mounting positions

Part numbers for standard actuators

A 70 500 888

Actuators-Length mm (in.) Flat R49 (1.92)



Operating force - max.	N (oz.)	1.2 (4.2)
Release force - min.	N (oz.)	0.25 (.9)
Pre-travel - max.	mm (in.)	6.2 (.24)
Differential travel	mm (in.)	2.1 ^{±0.9} (.083 ^{±0.365})
Total travel max.	mm (in.)	7.5 (.3)

Except where otherwise indicated, the flat and roller actuators are mounted as shown in the dimensional drawings (mounted on the left).

Assemblies

Other information

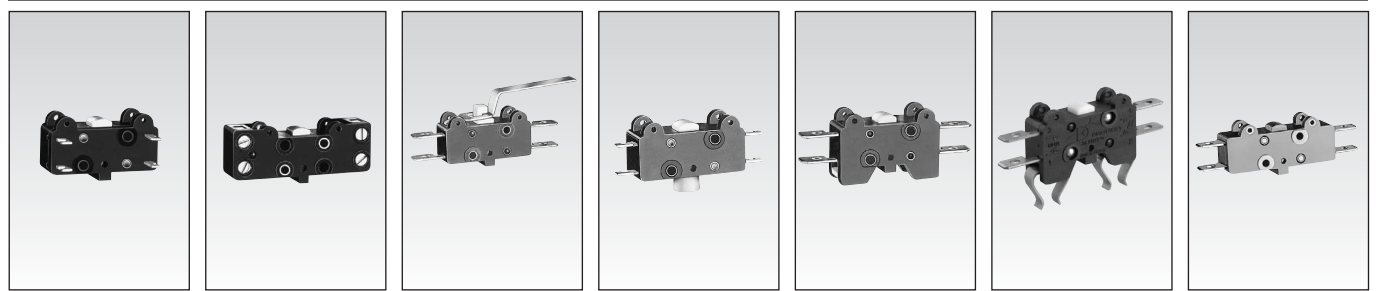
For other forces, actuators, connections and temperatures, please consult us.

Normally stocked items

Catalog products produced to order

Products and specifications subject to change without notice.

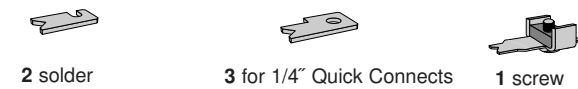
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83 109 0	83 112 0	83 106 4	83 106 7	83 111 0	83 111 5	83 154 0
-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------

Face terminals	Enclosed screws	Bistable, 2 actuator positions	Bistable, 2 push button positions	Base mounting by screws	Base mounting by clips	Magnetic blow-out switch
—	—	—	—	—	—	5
10	10	10	10	10	10	—
17.5	17.5	17.5	17.5	17.5	17.5	17.5
4 (14.1)	4 (14.1)	0.45 (1.62)	2 (7.19)	4 (14.1)	4 (14.1)	4 (14.1)
1 (3.5)	1 (3.5)			1 (3.5)	1 (3.5)	1 (3.5)
20 (70.5)	20 (70.5)			20 (70.5)	20 (70.5)	20 (70.5)
12.75 (.5)	12.75 (.5)					
11.45 ^{+0.2 -0.25} (.45 ^{+0.008})	11.45 ^{+0.2 -0.25} (.45 ^{+0.008})			11.45 ^{+0.2 -0.25} (.45 ^{+0.008})	11.45 ^{+0.2 -0.25} (.45 ^{+0.008})	11.45 ^{+0.2 -0.25} (.45 ^{+0.008})
0.5 ^{+0.2} (.02 ^{+0.008})	0.5 ^{+0.2} (.02 ^{+0.008})			0.5 ^{+0.2} (.02 ^{+0.008})	0.5 ^{+0.2} (.02 ^{+0.008})	0.65 ^{+0.25} (.02 ^{+0.008})
0.7 (.29)	0.7 (.29)			0.7 (.29)	0.7 (.29)	0.7 (.29)
-20 +85 (-4 +185)	-20 +85 (-4 +185)	-20 +85 (-4 +185)	-20 +85 (-4 +185)	-20 +85 (-4 +185)	-20 +85 (-4 +185)	-40 +125 (-4 +257)
10 ⁷	10 ⁷	10 ⁵	10 ⁵	10 ⁷	10 ⁷	10 ⁷
0.4 x 2 (.016 x .08)	0.4 x 2 (.016 x .08)	0.4 x 2 (.016 x .08)	0.4 x 2 (.016 x .08)	0.4 x 2 (.016 x .08)	0.4 x 2 (.016 x .08)	0.5 x 2 (.016 x .08)
8 (.3)	14.5 (.3)	9 (.32)	8 (.3)	8 (.3)	8 (.3)	11 (.3)

Contact type						
C	C	C	C	C	C	C
		B	B	B	B	B
		A	A	A	A	A



B 70 500 828	E 70 500 813	Q 70 500 840	T 70 500 870	B9	21 416 364
R49 (1.92)	Flat R47 (1.85)	Lever R26 (1.02)	R15.5 (.61)	Operation B9	Plate Mounting Screw
1.2 (4.2)	1.2 (4.2)	2.8 (9.9)	4 (14.1)	4 (14.1)	
0.25 (.9)	0.25 (.9)	0.45 (1.6)	0.8 (2.8)	1 (3.5)	
6.2 (.24)	6.2 (.24)	3.2 (.125)	1.45 (.057)	1.5 (.059)	
2.1 ^{+0.9} (.083 ^{+0.035})	2.1 ^{+0.9} (.083 ^{+0.035})	1.05 ^{+0.4} (.041 ^{+0.016})	0.5 ^{+0.2} (.02 ^{+0.008})	0.5 ^{+0.2} (.02 ^{+0.008})	
8.4 (.33)	7.5 (.31)	4.5 (.18)	1.9 (.075)	1.9 (.075)	

Y 70 500 206	H 70 500 208	O2 70 500 218	K2 2-pole vertical mounting plate
Y Side plate	H Horizontal single-pole mounting plate	O2 2-pole side mounting plate	K2 2-pole vertical mounting plate

To order, specify :				
1 Switch Type	2 Contact Type	3 Connection	Example : 831810 C 2 - Ø	4 Actuators
831060	C	1		A
831090	B	2		T
831120	A	3		B9
831540			To order actuators separately, use the 8 digit P/N	Ø = No actuator
				E
				Q
				5 Actuator Position
				L - Left (Standard)
				R - Right

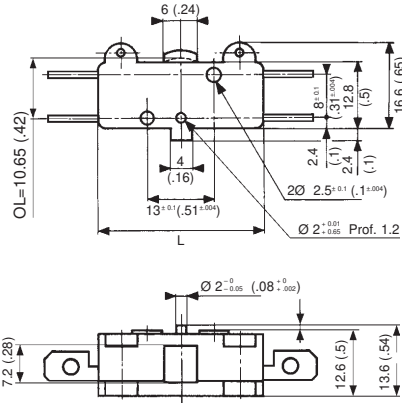
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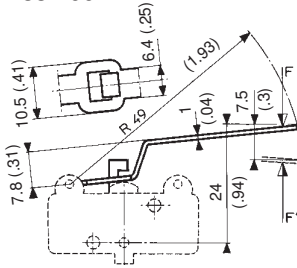
Standard Switches

Dimensions

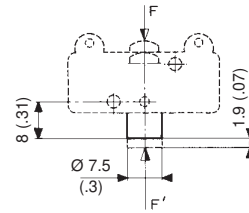
83 106 - 83 109 - 83 154



83 106 4

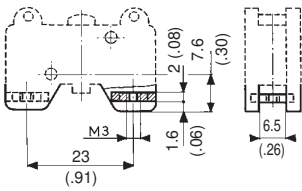


83 106 7

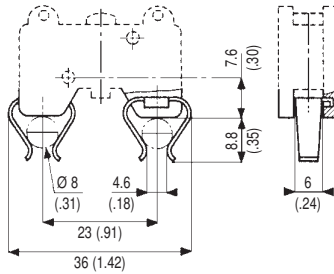


Products	L
83 106 / 109 / 111	32 (1.26)
83 154	40 (1.57)

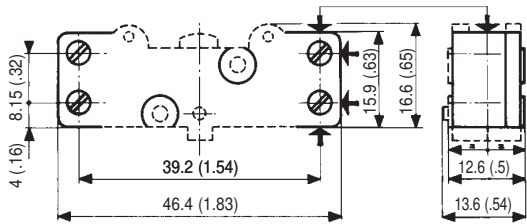
83 111 0



83 111 5



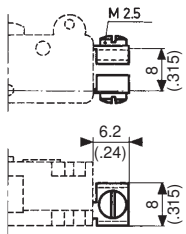
83 112



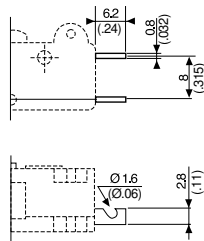
mm (in)

Connections

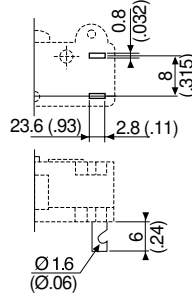
1



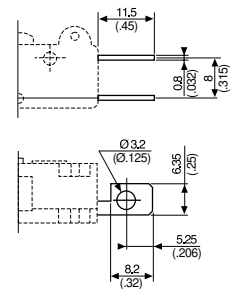
2 (83 106)



2 (83 109)



3



mm (in)

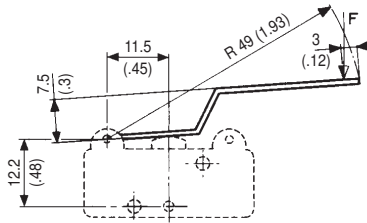
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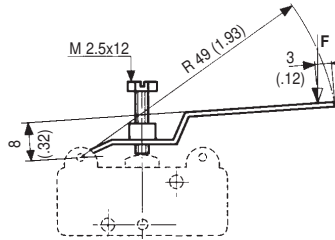
Actuators

Cross-section of actuators 1 x 6.4 mm (.039 x .252 in.)

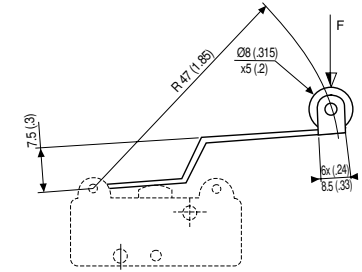
A



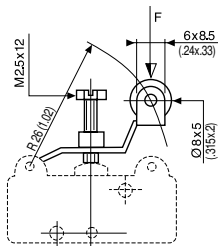
B



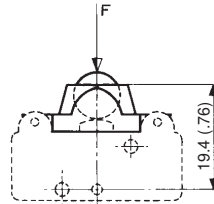
E



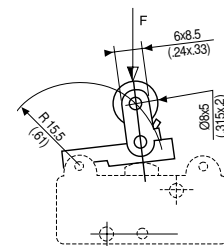
Q



B9



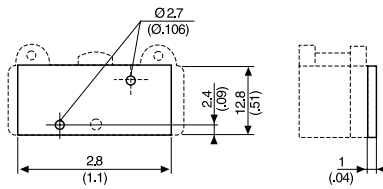
T



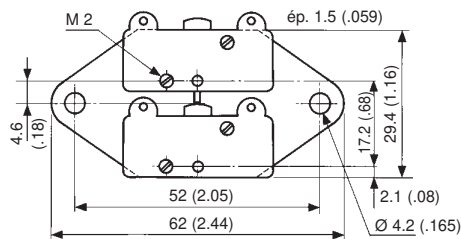
mm (in.)

Assemblies

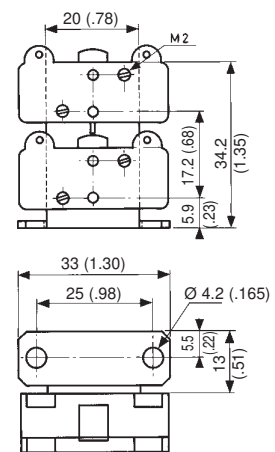
Y



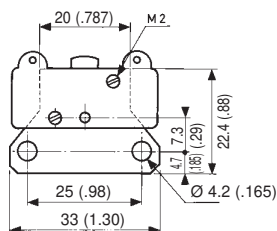
O2



K2



H



Unless indicated, the thickness of plates is 1.5 mm (.059 in.)

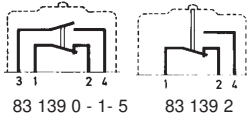
mm (in.)

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General specifications

Layout



Components

Material

- Case : polyester
- Contacts : silver
- Membrane : nitrile on 83 139 0
silicone on 83 139 1 - 2 - 5

Actuators :

- stainless steel
- rollers : polyamide

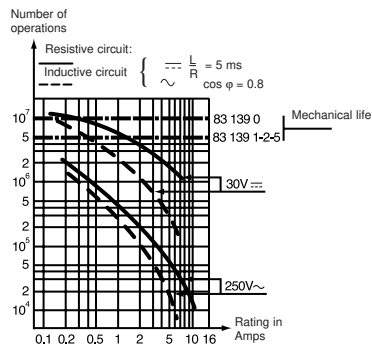
- The NO and NC circuits must both be of the same polarity.

Characteristics specific to 83 139 1

- Conform to standards EN 50 014 and 50 018
- Group II classified for explosive atmospheres other than mines subject to firedamp
- Temperature class T6, max. surface temperature 85°C
- LCIE certificate 880022U
- These switches can be enclosed in an envelope of a certified material, particularly to provide mechanical protection

- Degree of protection IP 67.

Operating curve



Types

Features

Electrical characteristics

	Nominal	A
Current rating at 125-250 V		

Mechanical characteristics

Operating force - max.	N (oz)
Release force - min.	N (oz)
Max. total travel force	N (oz)
Overtravel max. - force	N (oz)
Maximum rest position	mm (in)
Tripping point	mm (in)
Movement differential	mm (in)
Overtravel - min.	mm (in)
Operating temperature	°C (F°)
Mechanical life	Operations
Contact gap	mm (in)
Weight	g (oz)

Contact Type

C (Form C) SPDT

Mounting Holes

4 holes = A standard

2 holes = B

Connections

Lead position bottom - standard

Lead position right

Lead position left

Actuators

Part numbers for standard actuators

Actuator-Length mm (in)

Operating force - max.	N (oz)
Release force - min.	N (oz)
Movement differential	mm (in)

Part numbers for standard actuators

Actuator-Length mm (in)

Operating force - max.	N (oz)
Release force - min.	N (oz)
Movement differential	mm (in)

Other information

For other forces, actuators, connections and temperatures, lead lengths, please consult factory.

Normally stocked items

Catalog products produced to order

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1
83 139 0 83 139 5 83 139 2 83 139 1

Standard	Low temperature	Double insulation to NFC 20030 standard classe II	Explosion proof EEX d 11C T6
5	5	5	5
3 (10.6)	3 (10.6)	3 (10.6)	3 (10.6)
0.6 (2.1)	0.6 (2.1)	0.6 (2.1)	0.6 (2.1)
4 (14.1)	4 (14.1)	4 (14.1)	4 (14.1)
10 (35.3)	10 (35.3)	10 (35.3)	10 (35.3)
A = 8.8 (.35) B = 9.8 (.39)	A = 8.8 (.35) B = 9.8 (.39)	B = 9.8 (.39)	B = 9.8 (.39)
A:7.7 ^{+0.4} (.30 ^{+0.016}) B:8.7 ^{+0.4} (.32 ^{+0.016})	A:7.7 ^{+0.4} (.30 ^{+0.016}) B:8.7 ^{+0.4} (.32 ^{+0.016})	8.7 ^{+0.4} (.32 ^{+0.016})	A:7.7 ^{+0.4} (.30 ^{+0.016}) B:8.7 ^{+0.4} (.32 ^{+0.016})
0.35±0.1 (.014±.004)	0.35±0.1 (.014±.004)	0.35±0.1 (.014±.004)	0.35±0.1 (.014±.004)
0.3 (.012)	0.3 (.012)	0.3 (.012)	0.3 (.012)
0 to 85 (32 to 185)	0 to 85 (32 to 185)	-40 to 85 (-40 to 185)	-40 to 85 (-40 to 185)
10 ⁷	5 x 10 ⁷	5 x 10 ⁶	5 x 10 ⁶
0.3 x 2 (.012 x .008)	0.3 x 2 (.012 x .008)	0.3 x 2 (.012 x .008)	0.3 x 2 (.012 x .008)
37 (1.3)	37 (1.3)	45 (1.6)	37 (1.3)

2
C C C C

3			
A	A	B	B
B	B	B	B

4			
4 flexible leads ø 2.8 x 0.75 mm ² length 0.50 m	4 flexible leads ø 2.8 x 0.75 mm ² length 0.50 m	3 lead cable 3 x 0.75 mm ² length 0.50 m	4 flexible leads ø 2.8 x 0.75 mm ² length 0.50 m

5			
B	B	B	B
R	R		R
L	L		L

6					
P	R	A 79 215 740	B 79 507 524	E 79 215 742	G 70 507 529

Flat **139 AX** R29.7 (1.17)** Roller **139 EX** R28.7 (1.13)** Flat **161A** R14.2 (.56) – R25.4 (1.0) Roller **161 E** R13.6 (.54) – R24.1 (.94)



1.5 (5.3)
0.2 (.7)
1.5 (.06)

1.5 (5.3)
0.2 (.7)
1.5 (.06)

2.6 (9.2)
0.35 (1.2)
0.7 (.028)

1.7 (6)
0.2 (.7)
1.25 (.05)

2.6 (9.2)
0.35 (1.2)
0.7 (.028)

1.7 (6)
0.2 (.7)
1.25 (.047)

F 79 218 581 **H 79 218 651** **Note :** When mounting actuators, a light greasing of the switch push-button is recommended.

Flat **161F** R22.3 (1.17) Dummy roller **161 G** R21.8 (.86)



2 (7.1)
0.2 (.7)
1.1 (.043)

2 (7.1)
0.2 (.7)
1.1 (.043)

For more actuators, see 83161

Ø
No Actuator

** Factory mounted only

To order, please specify :

1 Switch Type	2 Contact Type	3 Mounting Holes	4 Connection	5 Lead Length	6 Actuators
831390 831391 831392 831395	C	A B	B R L	.5 - 1/2 meter (std) 1 - 1 meter 2 - 2 meter	A F P B H R E G
Example switch is: 831390, DBDT, 4 mounting holes, leads exit bottom, .5 meter cable with A actuator.			To order actuators separately, use 8 digit P/N.		

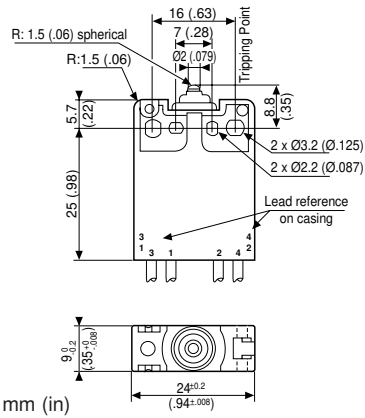
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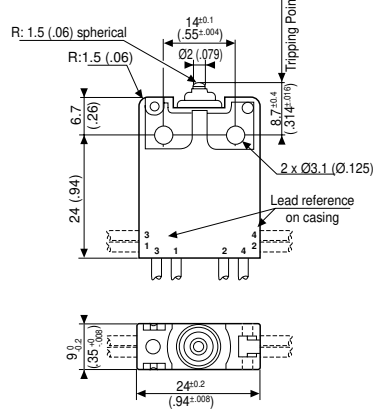


Dimensions

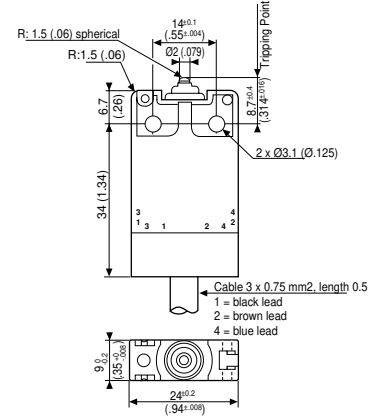
83 139 0 - 5 - Mounting A = 4 holes



83 139 0 - 1 - 5 - Mounting B = 2 holes

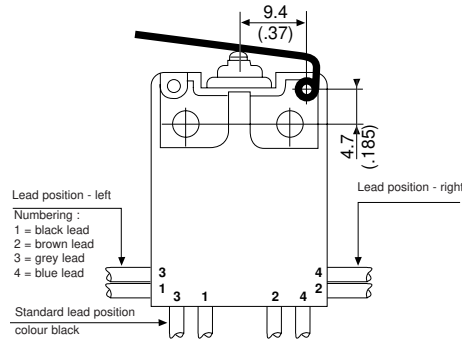
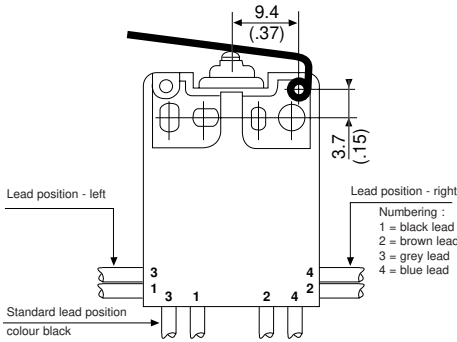


83 139 2



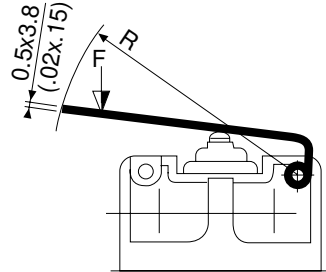
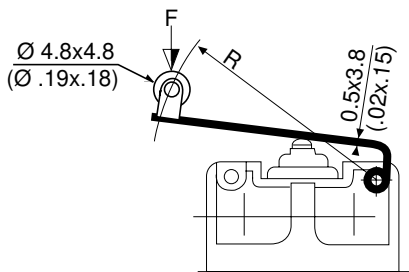
Actuators Factory Mounted Only

Actuators mounting position (type 139)



R

P



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