

## Conforms to the following standards

IEC / EN 60947.5.1  
 Dimensional conformity: NFC 63145  
 Low voltage directive: 73/23/EEC and 93/68/EEC  
 Electric shock protection: NFC 20030 or IEC 60536 class 1, degree of pollution 3.

**Temperature specification:** -25°/+70°C -13°/+158°F

## Degree of protection

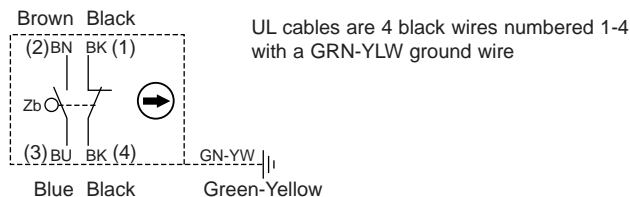
According to IEC 62529: IP 66 / 67  
 According to NEMA : Type 1, 3, 4, 6, 13

## Function

Four-terminal double break contact element (form Zb) with positive opening NC contacts. The two moving contacts are electrically isolated from one another.

## Principle

Snap-Action SPDT-DB



## Electrical characteristics

Assigned impulse voltage (U<sub>imp</sub>): 2500 V  
 Assigned insulation voltage (U<sub>i</sub>): 500 V  
 Thermal rating (I<sub>th</sub>): 10 A  
 With standard contacts: Minimum voltage 10 V  
 Minimum current 100 mA

Use category:  
 according to IEC 947.5.1 AC15 = 250 V / 6 A  
 DC 13 = 24 V / 8 A  
 according to UL 508 A300 - Q150

## Electrical protection

Integral earth wire  
 Short-circuit protection device: IEC 947.5.1  
 Fuse 6 AgC

## Connections

5-core cable HO5VF, 75 mm<sup>2</sup>, ext. Ø 8 mm (non-UL type cable)

## Approvals

UL 508, UL 50

## Types

Standard  
 Plunger or roller at 90°

## Standard Part Number (Cable length = 2.0 meters, exit: side)

### Actuator Type

Metal plunger  
 Metal roller plunger  
 Metal plunger with threaded barrel  
 Roller plunger - metal with threaded barrel  
 Metal roller lever (operates in both directions)

### Mechanical characteristics

Minimum positive opening force N (cmN)  
 Minimum total travel force N (cmN)

Mechanical life millions of operations  
 Weight g

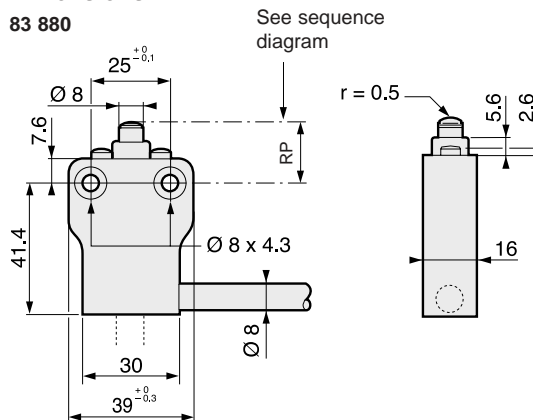
## Sequences

Positions: nominal data

## Dimensions

83 880

mm



(\*) Other cable lengths:

modify the last digit of the part number. For example:

- 0 = M12 connector output
- 1 = 1.0 meter cable
- 2 = 2.0 meter cable (Standard)
- 3 = 3.0 meter cable
- 6 = 6.0 meter cable

(\*\*) For different cable outputs:

modify the next to the last digit of the part number:

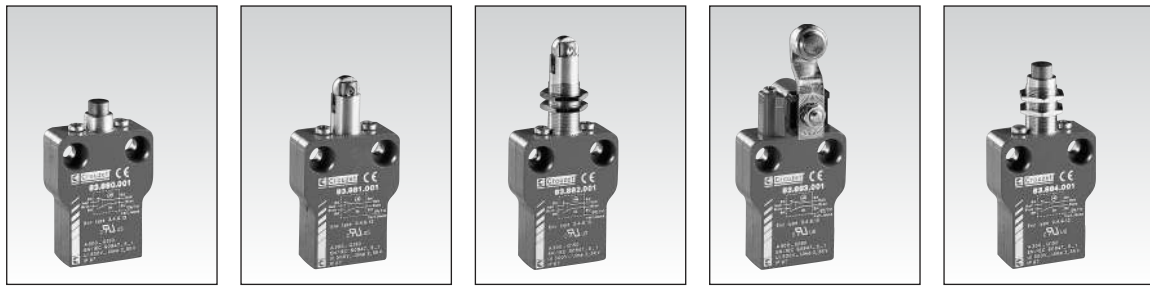
- 0 = Cable side exit (Standard)
- 1 = Cable bottom exit
- 2 = Connector side exit
- 3 = Connector bottom exit

## Other information

For different actuator arms, low voltage / low current contacts / low temperature, special contacts, custom wiring harness, etc...., please consult us.

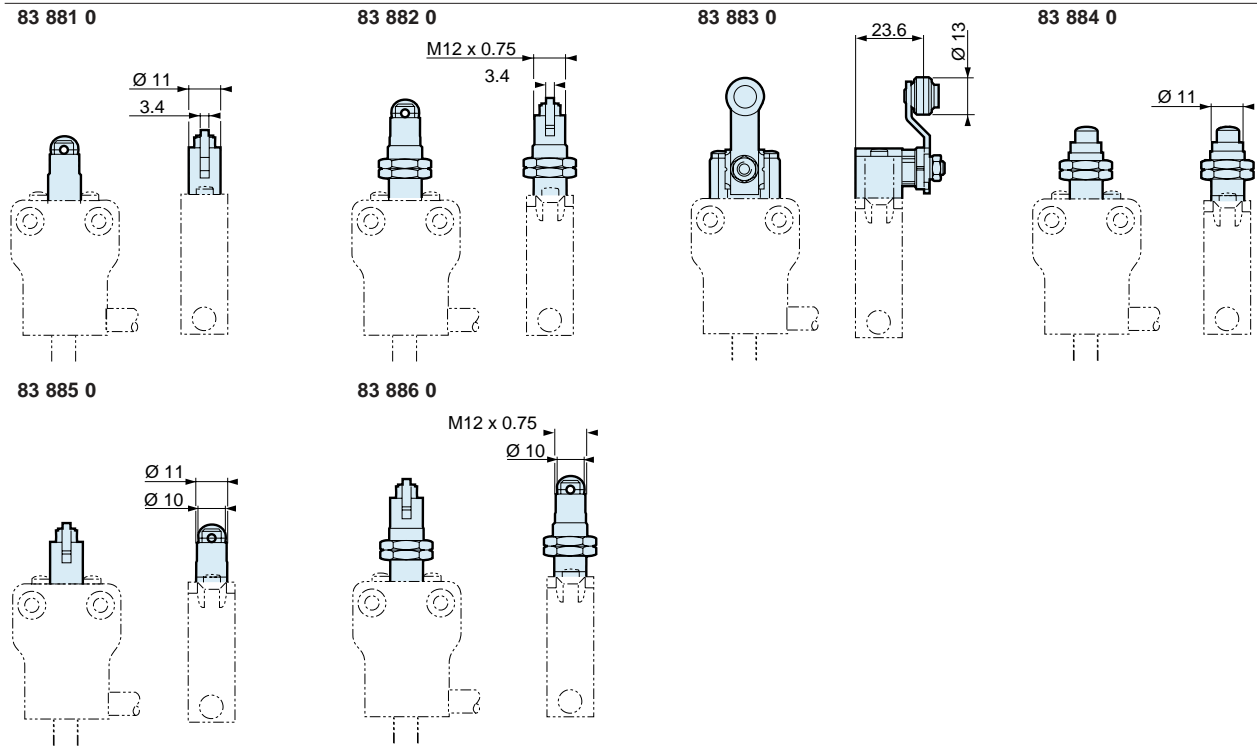
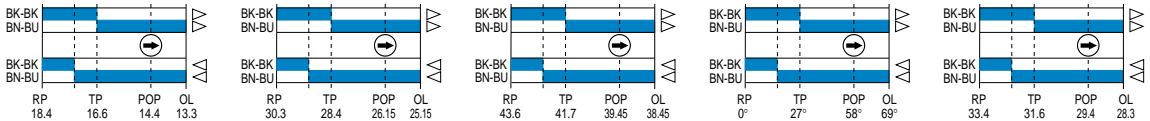
Products and specifications subject to change without notice.

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<b>83 880 0</b>	<b>83 881 0</b>	<b>83 882 0</b>	<b>83 883 0</b>	<b>83 884 0</b>	<b>1</b>
<b>83 880 102</b>	<b>83 881 102</b>	<b>83 882 102</b>	<b>83 883 102</b>	<b>83 884 102</b>	<b>2</b>
<b>83 880 103</b>	<b>83 881 103</b>	<b>83 882 103</b>	<b>83 883 103</b>	<b>83 884 103</b>	

36 (10)	36 (10)	36 (10)	22 in.oz. (15cmN)	36 (10)
108 (30)	108 (30)	108 (30)	52 in.oz. (35cmN)	108 (30)
100 (28)	100 (28)	100 (28)	22 in.oz. (15cmN)	100 (28)
10	10	10	10	10
10.3 (290)	10.4 (295)	11.1 (315)	10.3 (290)	10.9 (310)



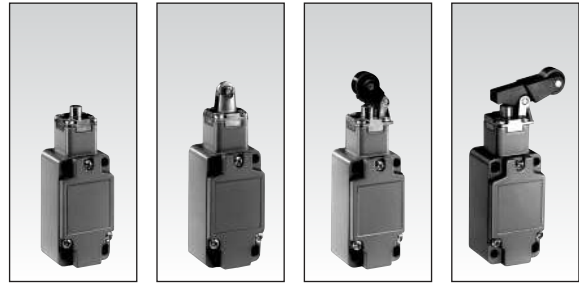
mm

<b>To order, specify:</b>	
Standard products	<b>2</b> Part number Example: Limit switch 83 881 102
Standard products, non stocked	<b>1</b> Type Examples: Limit switch 83 881 003 ; cable length = 3 m - Limit switch 83 881 006 ; cable length = 6 m

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# Industrial Limit Switches Series 83 862 EN 50041

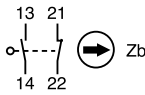


**Conform to the following standards :**  
 EN 50041, IEC 947-5-1, VDE 0660/200  
 UL 508, CSA C22.2 No.14  
 IEC 536-1, EN 60204-1, NFC 20030  
 class I

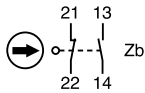
**Degree of protection :** IP 66

**Function :** Four-terminal double break contact element (form Zb) with positive opening NC contacts.  
 The two moving contacts are electrically isolated from one another.

**Principle :**  
 Independent snap action contact  
 1 NO + 1 NC



**Dependent action**  
 1 NO + 1 NC



Break before make

**Electrical characteristics :**

Assigned insulation voltage (Ui) : 500 V  
 Thermal rating (Ith) : 10 A  
 Use category : A300 - Q300  
 AC15 = 6A/250 V - 1.9 A / 380 V  
 DC 13 = 3A/24 V

**Short circuit test** (under IEC 947.5.1 § 8.3.4)  
 - Current peak 1000 A  
 at 250 V - 0.5 < cos φ < 0.7  
 - Short circuit protection (SCPD) : fuse 10 A gF  
 - Electrical protection by internal earth terminal

**Connections :**  
 Saddle washer and M 3.5 screw  
 Max. wire cross-section : 2 x 1.5 mm<sup>2</sup> or 2.5 mm<sup>2</sup>

**Connection :**  
 1/2" NPT

**Approvals :**  
 UL listed A300 - Q300 - CSA A300 - Q300

**Types**

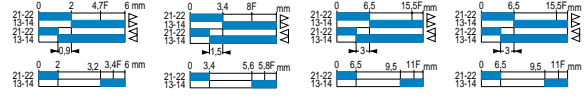
	83 862 011	83 862 511	83 862 111	83 862 211
Dependent action NC + NO	83 862 011	83 862 511	83 862 111	83 862 211
Independent snap action NC + NO	83 862 001	83 862 501	83 862 101	83 862 201
Control mechanisms - adjustable actuator heads 4 positions 90°	•	•	•	•
Steel plunger	•			
Plunger with steel roller		•		
Lever with vertical plastic roller			•	
Lever with lateral plastic roller				•

**Rotary head, momentary action to clockwise and/or anti-clockwise (1)**

	83 862 011	83 862 511	83 862 111	83 862 211
Ø 22 offset 43.5				
With lever and plastic roller				
Ø 19 offset 56				
offset 50.5				
Ø 50 offset 57				
With adjustable lever and plastic roller				
Ø 22 offset 36 or 48				
Ø 50 offset 49 adjustable offset 57 to 73				
With adjustable polyamide rod actuator				
Flexible metal lever				
Independent snap action				

**Sequence**

Dependent action



Positive break operation



**Mechanical characteristics**

Minimum operating force	N (oz.)	10 (35.5)	10 (35.5)	9 (31.7)	9 (31.7)
Minimum total travel force	N (oz.)	12 (42.3)	12 (42.3)	10 (35.3)	10 (35.3)
Minimum positive opening travel	N (oz.)	25 (88.2)	25 (88.2)	20 (70.5)	20 (70.5)
Minimum operating travel	mm (in.)	5 (.2)	5 (.2)	5 (.2)	5 (.2)
Minimum positive opening travel	mm (in.)	6 (.24)	6 (.24)	6.5 (.26)	6.5 (.26)
Differential travel	mm (in.)	1.5 (.06)	1.5 (.06)	1.5 (.06)	1.5 (.06)
Max. total travel	mm (in.)	6 (.24)	6 (.24)	6 (.24)	6 (.24)
Mechanical life (millions of operations) mini.		15	15	15	15
Temperature Use	°C (°F)	-25+80(-13+176)	-25+80(-13+176)	-25+80(-13+176)	-25+80(-13+176)
limits Stored	°C (°F)	-40+80(-40+176)	-40+80(-40+176)	-40+80(-40+176)	-40+80(-40+176)
Degree of protection		IP 66	IP 66	IP 66	IP 66
Weight	g (oz.)	305 (10.76)	315 (11.11)	320 (11.28)	325 (11.46)

(1) Action either right or left according to position of head

**Accessories**

Cover with status indicator (supplied loose)	24.30 V ~ ☐	79 250 290
	220 V ~	79 250 291

**Replacement contact block**

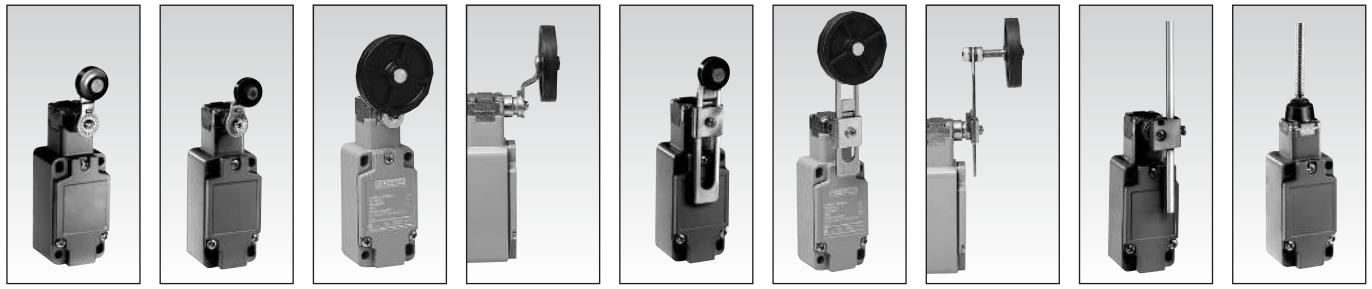
Part number	Configuration	Function
83157401	SPDT	<STD>
83157402	SPDT	Break before make
83157403	SPDT	Make before break
83157404	2 NO	DPST - Normally open
83157405	2 NC	DPST - Normally closed

**Other information**

For other contact types and accessories or special modes of operation : please consult us.  
 For dimensions see page 3/39.

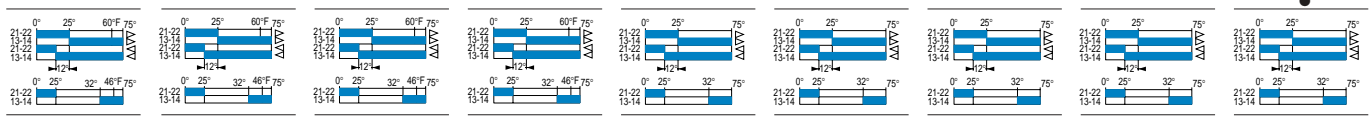
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<b>83 862 311</b>	<b>83 862 312</b>	<b>83 862 315</b>	<b>83 862 316</b>	<b>83 862 313</b>	<b>83 862 317</b>	<b>83 862 318</b>	<b>83 862 314</b>	<b>83 862 611</b>
<b>83 862 301</b>	<b>83 862 302</b>	<b>83 862 305</b>	<b>83 862 306</b>	<b>83 862 303</b>	<b>83 862 307</b>	<b>83 862 308</b>	<b>83 862 304</b>	<b>83 862 601</b>

•	•	•	•	•	•	•	•	•



28cmN (40inoz)	28cmN (40inoz)	28cmN (40inoz)	28cmN (40inoz)	28cmN (40inoz)	28cmN (40inoz)	28cmN (40inoz)	28cmN (40inoz)	3 (10.5)
37cmN (52inoz)	37cmN (52inoz)	37cmN (52inoz)	37cmN (52inoz)	37cmN (52inoz)	37cmN (52inoz)	37cmN (52inoz)	37cmN (52inoz)	4.5 (15.8)
75cmN (106inoz)	75cmN (106inoz)	75cmN (106inoz)	75cmN (106inoz)	75cmN (106inoz)	75cmN (106inoz)	75cmN (106inoz)	75cmN (106inoz)	
30°	30°	30°	30°	30°	30°	30°	30°	30°
60°	60°	60°	60°	60°	60°	60°	60°	
20°	20°	20°	20°	20°	20°	20°	20°	20°
75°	75°	75°	75°	75°	75°	75°	75°	75°
15	15	15	15	15	15	15	15	15
-25+80(-13+176)	-25+80(-13+176)	-25+80(-13+176)	-25+80(-13+176)	-25+80(-13+176)	-25+80(-13+176)	-25+80(-13+176)	-25+80(-13+176)	-25+80(-13+176)
-40+80(-40+176)	-40+80(-40+176)	-40+80(-40+176)	-40+80(-40+176)	-40+80(-40+176)	-40+80(-40+176)	-40+80(-40+176)	-40+80(-40+176)	-40+80(-40+176)
IP 66	IP 66	IP 66	IP 66	IP 66	IP 66	IP 66	IP 66	IP 66
340 (12)	340 (12)	340 (12)	340 (12)	365 (12.8)	365 (12.8)	365 (12.8)	360 (12.7)	335 (11.8)



**To order, specify :**

<b>Standard products</b>	1	Part number Example : Limit switch 83 860 001
<b>Standard products, non stocked</b>	1	Type
	2	Accessory Example : Limit switch 83 861 001 - Cover with status indicator 79 250 290

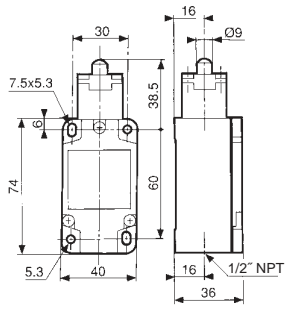
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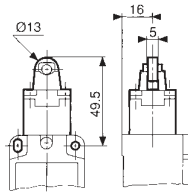


# Dimensions of 83 862 EN 50041

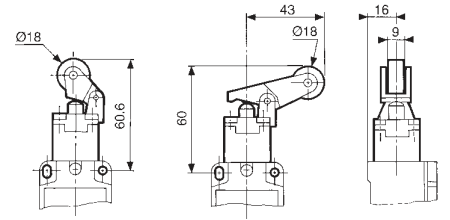
83 862 001/011



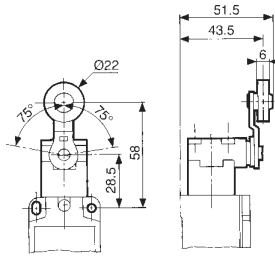
83 862 501/511



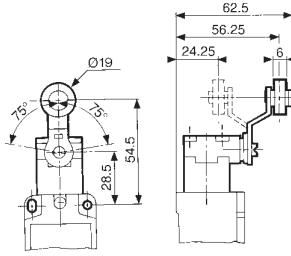
83 862 101/111 – 201/211



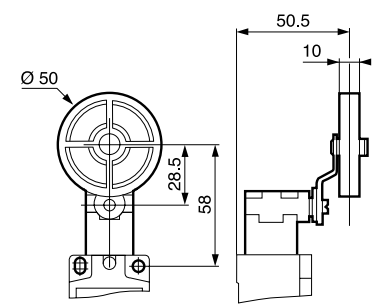
83 862 301/311



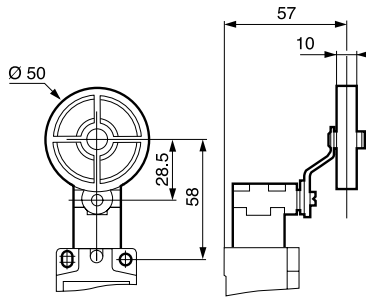
83 862 302/312



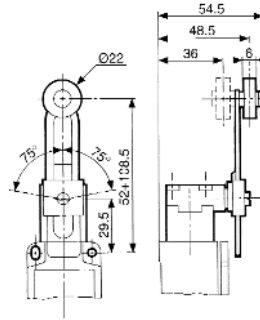
83 862 305/315



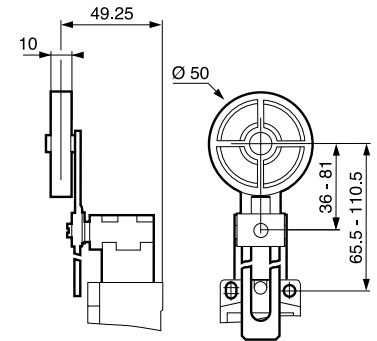
83 862 306/316



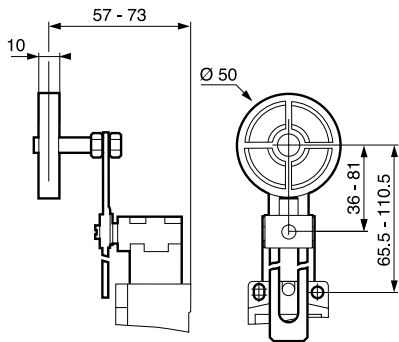
83 862 303/313



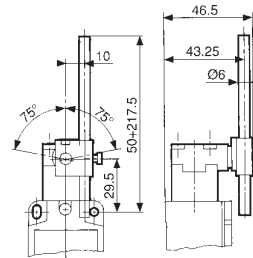
83 862 307/317



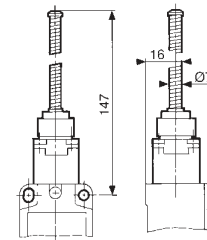
83 862 308/318



83 862 304/314



83 862 601/611



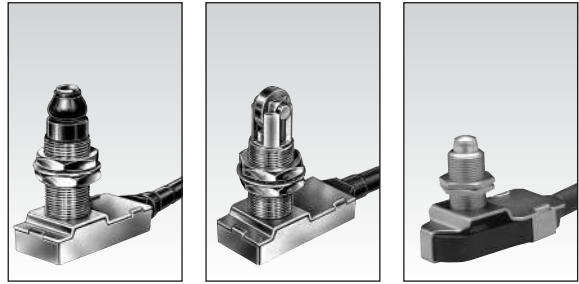
mm

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3

# Automotive Limit Switches Series 83 731/ 83 732 / 83 733



1

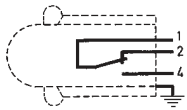
**Conform to the following standards :**  
IEC 356.1 - EN 60204.1  
NFC 20030 : Class I - 83 731 - 83 732  
Class III - 83 733

**Degree of protection :**  
IP 56 - IP 66 depending on type

**Version :** 1 pole

**Function :** 3-terminal single break two-way contact element (form C: inverter).

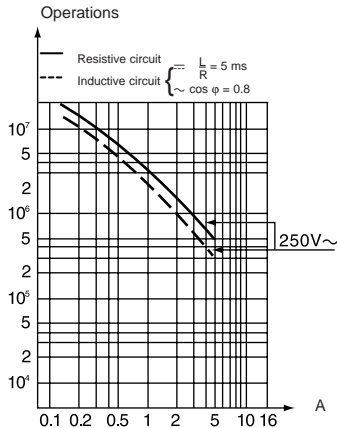
**Principle :**



**Electrical characteristics :**

Assigned operating current (Ie)  
83 731 - 83 732 : 5 A 250 V  
83 733 : 5 A 50 V  
Thermal rating (Ith) : 12 A

**Operating curve :**



**Connections :**

PVC cable (A05 - VV - F) 0.50 m long  
3 conductors cross-section 0.75 mm<sup>2</sup>  
Sheathed, ext. Ø : 7.6 mm  
Core connections : 1 : black (common)  
2 : brown (NC)  
4 : blue (NO)

**Electrical protection :**

Earthing terminal for version 83 731 and 83 732.

**Approvals :**

CSA A300.

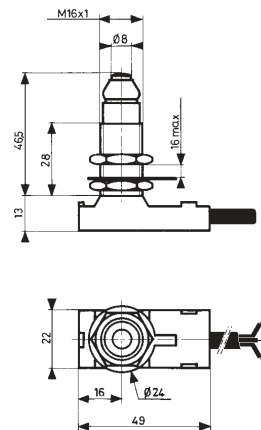
## Types

		83 731 3	83 732 3	83 733 3
<b>Control mechanisms</b>				
Top-mounted plunger		•		•
Top-mounted plunger with roller			•	
<b>Mechanical characteristics</b>				
Minimum operating force	N (oz.)	15 (53)	15 (53)	6 (21.2)
Minimum total travel force	N (oz.)	35 (123.4)	35 (123.4)	25 (88.2)
Minimum operating travel	mm (in.)	2 (.079)	2 (.079)	1.5 (.059)
Differential travel	mm (in.)	0.2 (.008)	0.2 (.008)	0.2 (.008)
Max. total travel	mm (in.)	6 (.236)	6 (.236)	4 (.157)
Mechanical life	Operations	10 <sup>6</sup>	10 <sup>6</sup>	10 <sup>6</sup>
Temperature limits	°C (°F)	- 5 + 70	- 5 + 70	- 5 + 70
Degree of protection	°C (°F)	IP 66	IP 66	IP 56
Weight	g (oz.)	110 (3.9)	110 (3.9)	70 (2.5)

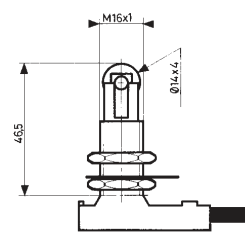
## Dimensions

mm

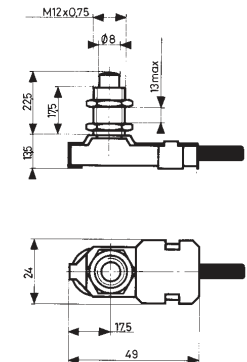
83 731 3



83 732 3



83 733 3



## Other information

For other versions, functions and special contacts or special modes of operation : please consult us.

## To order, specify :

1/2 meter cable	1 meter cable	2 meter cable
83731316	83731319	83731310
83732323	83732315	83732327
83733315	83733314	83733310

Standard products,  
non stocked

1 Type

Example : Limit switch - 83 731 319

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# Sealed Limit Switches Telescopic-Actuator Series 83 581

**Conforms to the following standards :** NFC 20030 class II - NFC 20010

**Degree of protection :** IP 67

**Contact type :** Three terminal single break contact element (Form C: SPDT)

**Layout :**



## Electrical characteristics :

Assigned working currents (Ie): standard 10 A - 250 V~  
low current 0.1 A - 250 V~

## Electrical endurance :

Standard : 10 A - 250 V : 40 000 operations  
5 A - 250 V : 100 000 operations

Low current : Designed for use from 1 to 100 mA at 4 to 30 volts.  
In these conditions, the electrical endurance exceeds the mechanical life.

## Connections :

Flexible leads 3x1 mm<sup>2</sup>. Length 0.50 m  
Cable 3x0,75 mm<sup>2</sup>. Length 0.50 m  
Core connections: 1: black  
2: brown  
4: blue

## Versions

## Features

Standard \_\_\_\_\_

Low current \_\_\_\_\_

## Operating devices

Telescopic top-mounted plunger \_\_\_\_\_

Plunger with axial roller - standard \_\_\_\_\_

## Plunger roller at 90° (G 90) - Consult Factory

## Contact Type

Form C – SPDT

## Mechanical characteristics

Minimum operating force	N (oz)
Minimum total travel force	N (oz)
Movement differential	mm (in)
Minimum operating travel	mm (in)
Total travel max.	mm (in)
Mechanical life	Operations
Temperature limits	°C (°F)
Degree of protection	
Weight	g (oz)

## Connections

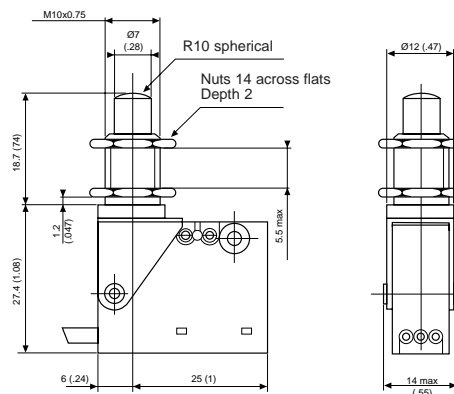
Flexible leads	Lead position - right (D)	_____
	Lead position - left (G)	_____
Cable	Output on left	_____

\* Rating restricted to 8A

## Dimensions

mm(in)

### 83 581 0



## Other information

For other accessories and special contacts, or special modes of operation, please consult factory.

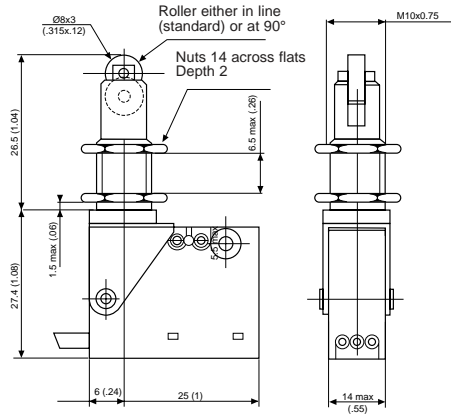
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<b>83 581 0</b>		<b>83 581 1</b>	
S	B	S	B
C	C	C	C
5 (17.6)	5 (17.6)	5 (17.6)	5 (17.6)
20 (70.5)	20 (70.5)	20 (70.5)	20 (70.5)
1 (.04)	1 (.04)	1 (.04)	1 (.04)
2.5 (.1)	2.5 (.1)	2.5 (.1)	2.5 (.1)
5.5 (.22)	5.5 (.22)	5 (.2)	5 (.2)
10 <sup>5</sup>	10 <sup>5</sup>	10 <sup>5</sup>	10 <sup>5</sup>
-20 to 85 (-4 to 185)	-20 to 85 (-4 to 185)	-20 to 85 (-4 to 185)	-20 to 85 (-4 to 185)
IP 67	IP 67	IP 67	IP 67
40 (1.4)	40 (1.4)	45 (1.6)	45 (1.6)
R	R	R	R
L	L	L	L
C*	C	C*	C

**83 581 1**



To order, please specify :

Example : 835810 S C C •

<p><b>1</b> Switch Type</p> <p>835810 835811</p>	<p><b>2</b> Current Level</p> <p>S - 10A B - &lt;.1A</p>	<p><b>3</b> Contacts</p> <p>C</p>	<p><b>4</b> Outputs</p> <p>R - Right (flexible wires) L - Left (flexible wires) C - Cable left output only</p>	<p><b>5</b> Lead Length</p> <p>.5 - 1/2 meter 1 - 1 meter 2 - 2 meter</p>
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Products and specifications subject to change without notice.

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